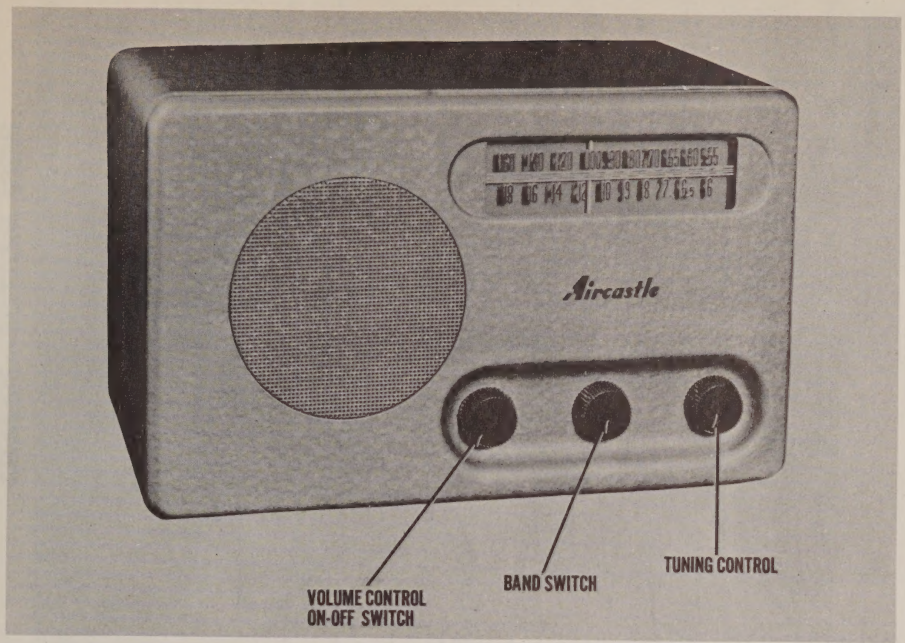
AIRCASTLE
MODEL 568



AIRCASTLE
MODEL 568

AIRCASTLE MODEL 568

TRADE NAME	Aircastle Model 568
SUPPLIER	Spiegel Inc., 1061 W. 35th St., Chicago, Ill.
TYPE SET	AC-DC 2 Band Superheterodyne Receiver
TUBES (FIVE)	Types, 12SA7 Converter, 12SK7GT IF Amp., 12SQ7 Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
RATING	.250 Amps. @ 117V AC
TUNING RANGE—BROADCAST	540-1600KC
SHORT WAVE	6.0-18.0MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed and set pointer at last reference mark at right end of dial. Use isolation transformer if available. If not, connect capacitor in series with low side of signal generator and B-. Volume control at maximum volume and output from signal generator no higher than is necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to pin #8 (grid) of 12SA7. Low side to B-.	455KC	BC	High freq. end.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy to .001 MFD to reduce excessive hum modulation.
"	"	1620KC	"	"	"	A5	Adjust for maximum output.
400 OHMS	High side to ant. term. Low side to B-.	18.3MC	SW	"	"	A6	"
"	"	18.0MC	"	Tune for maximum output	"	A7	"
200 MMF	"	1400KC	BC	"	"	A8	"
"	"	600KC	"	"	"	A9	Rock variable and adjust for maximum output. Recheck A5 at 1620KC.and A8 at 1400KC. If A5 is changed, recheck short wave adjustments.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: AIRCASTLE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7	12SA7	8R	
2	IF Amp.	12SK7GT	12SK7GT	8N	
3	Det.-AVC-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AIRCASTLE PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150	A-8948	EL-24	AF84D4A*	UP4215	FP306*	DY-40+20-150	■ Filter
B	20	150							▲ "
7	.05	400	BC31B503	TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
8	.002	600	BD610202	TC-22	684-002	DT6D2	TP405	S-6-002	Rect. Bypass
9	.1	400	BD410104	TC-1	484-.1	DT4P1	TP428	S-4-1	Line Isolating
10	.02	400	BD410203	TC-12	484-02	DT4S2	TP423	S-4-02	50L6 Plate Bypass
11	.02	400	BD410203	TC-12	484-02	DT4S2	TP423	S-4-02	Audio Coupling
12	.01	400	BD410103	TC-11	484-01	DT4S1	TP421	S-4-01	" "
13	.05	200	BD210503	TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
14	.002	600	BD610202	TC-22	684-002	DT6D2	TP405	S-6-002	Ant. Coupling
15	220	500	BM78A221	1FM-32	1468-0002	5W5T2	MC237	M0.5-32	Audio Plate Bypass
16	100	500	BM78A101	1FM-31	1468-0001	5W5T1	MC235	M0.5-31	Osc. Grid Capacitor
17	5100	300	BM58D512	1FM-25	1467-005	1D5D5	MC465	MW.5-25	Fixed Padder
18	1		B-51839-2						Neutralizing
19	2.2		B-51839-4						RF Coupling

*Do not use bypass section.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIRCASTLE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
20A	500K	1	B9051-5	MK401	D13-133	AM-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 20A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

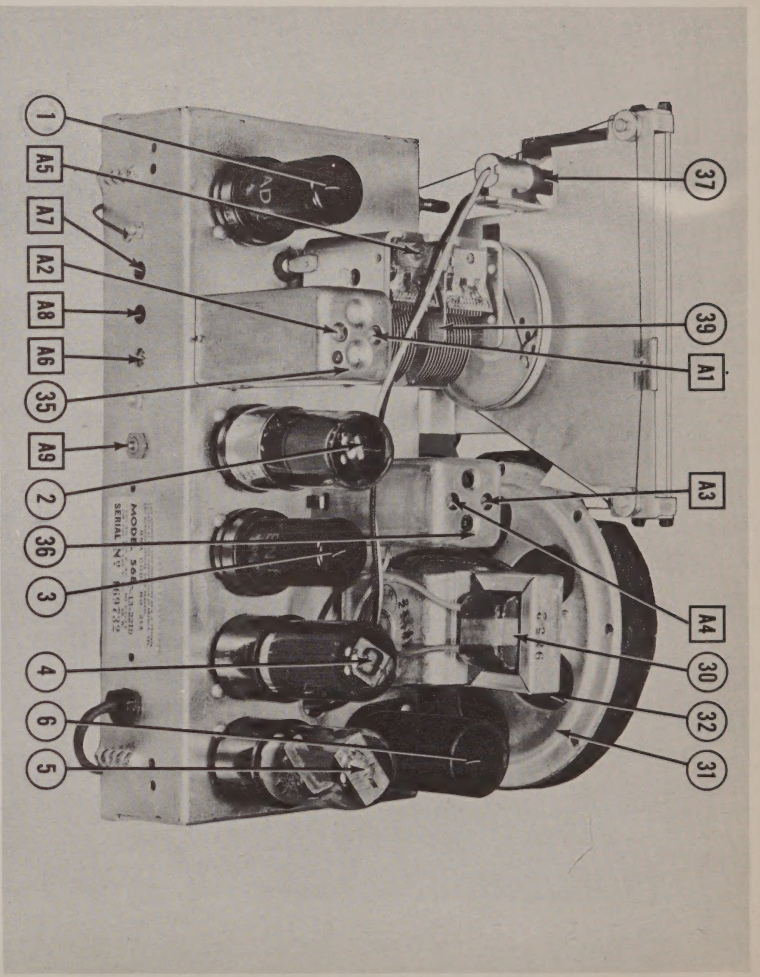
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIRCASTLE PART No.	IRC PART No.	IDENTIFICATION CODES
21	22KΩ	1/3	BR17B223	BTS-22K	Red-Red-Or. Osc. Grid
22	150Ω	1/3	BR17B151	BW-½-150	Br.-Grn.-Br. Parasitic Suppressor
23	15 Meg.	1/3	BR17B156	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
24	3.3 Meg.	1/3	BR17B335	BTS-3.3 Meg.	Or.-Or.-Grn. " "
25	6.8 Meg.	1/3	BR17B685	BTS-6.8 Meg.	Blue-Gray-Grn. 1st AF Grid
26	470KΩ	1/3	BR17B474	BTS-470K	Yl.-Vi.-Yl. " " Plate Load
27	470KΩ	1/3	BR17B474	BTS-470K	Yl.-Vi.-Yl. Output Grid
28	150Ω	1/2	BR16C151	BW-½-150	Br.-Grn.-Br. " Cathode
29	220KΩ	1/3	BR17B224	BTS-220K	Red-Red-Yl. Line Isolating

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: AIRCASTLE PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
30	4000Ω	3.5Ω	240Ω	.7Ω		A-3856‡	T-22846‡		‡Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA AIRCASTLE PART No.	REPLACEMENT DATA JENSEN PART No.		INSTALLATION NOTES
	FIELD RES.	VC IMP.		ST-4501		† Add 1500Ω 10 watt resistor in
31	350Ω	3.5Ω	C-51014	Mod. H5-S		Parallel with field coil.
	CONE DIA.	VC DIA.				
32	4-3/4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

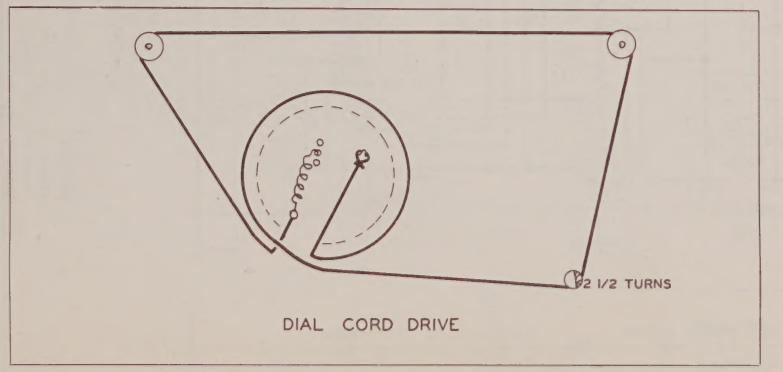
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA AIRCASTLE PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
33A	BC Ant. Coil	50Ω	5.5Ω	B51828		Items 33A, 33B wound on same form
33B	SW Ant. Coil	.5Ω	.1Ω	B51828		
34A	BC Osc. Coil	1.5Ω	5.5Ω	B51836		Items 34A, 34B " " " "
34B	SW Osc. Coil		.4Ω	B51836		
35	Input IF	29Ω	22Ω	B51010-1	16-6658	
36	Output IF	34Ω		B51011-1	16-6670	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA AIRCASTLE PART No.		INSTALLATION NOTES
37	Bayonet	6-8	.15	Brown	A-6158		Type 47

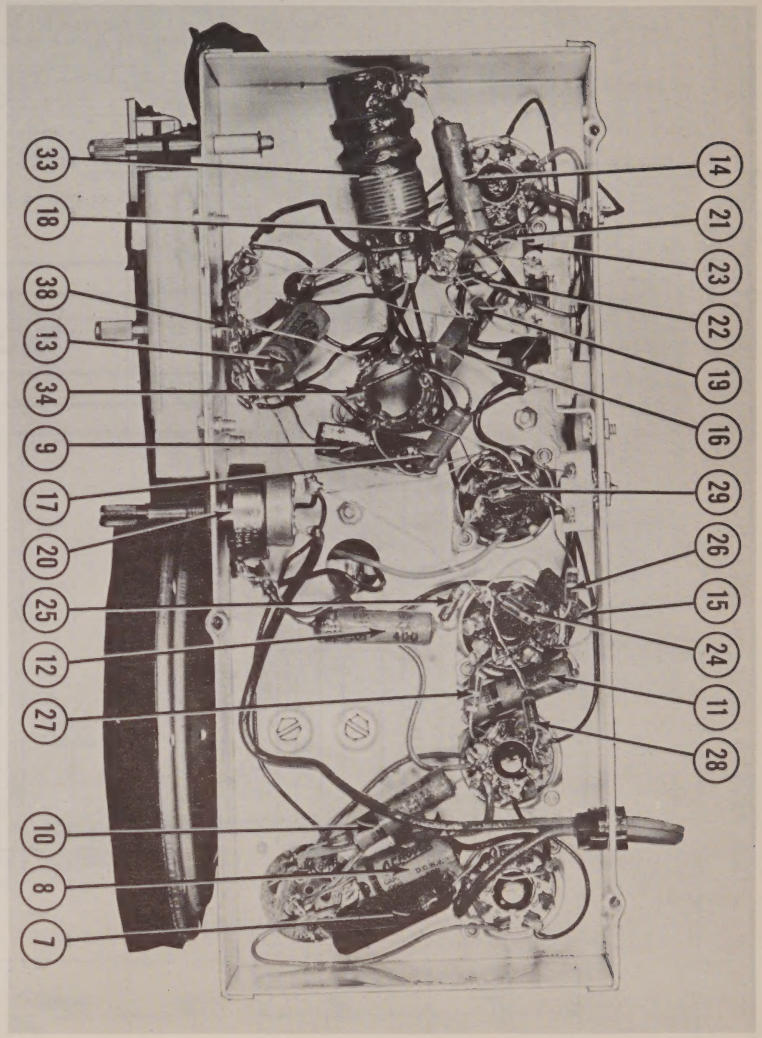
MISCELLANEOUS

ITEM No.	PART NAME	AIRCASTLE PART No.	NOTES
38	Band Switch	B-51764-1	
39	Tuning Cap.	C-51837-1	2 Gang Variable Cap.
A6	Trimmer Cap.	A-51834	SW Osc. Adj.
A7	Trimmer Cap.		SW Ant. "
A8	Trimmer Cap.		BC " "
A9	Padder Cap.	B-51428-5	BC Osc. Pad.
	Ant. Reel Assby.	A-51869	

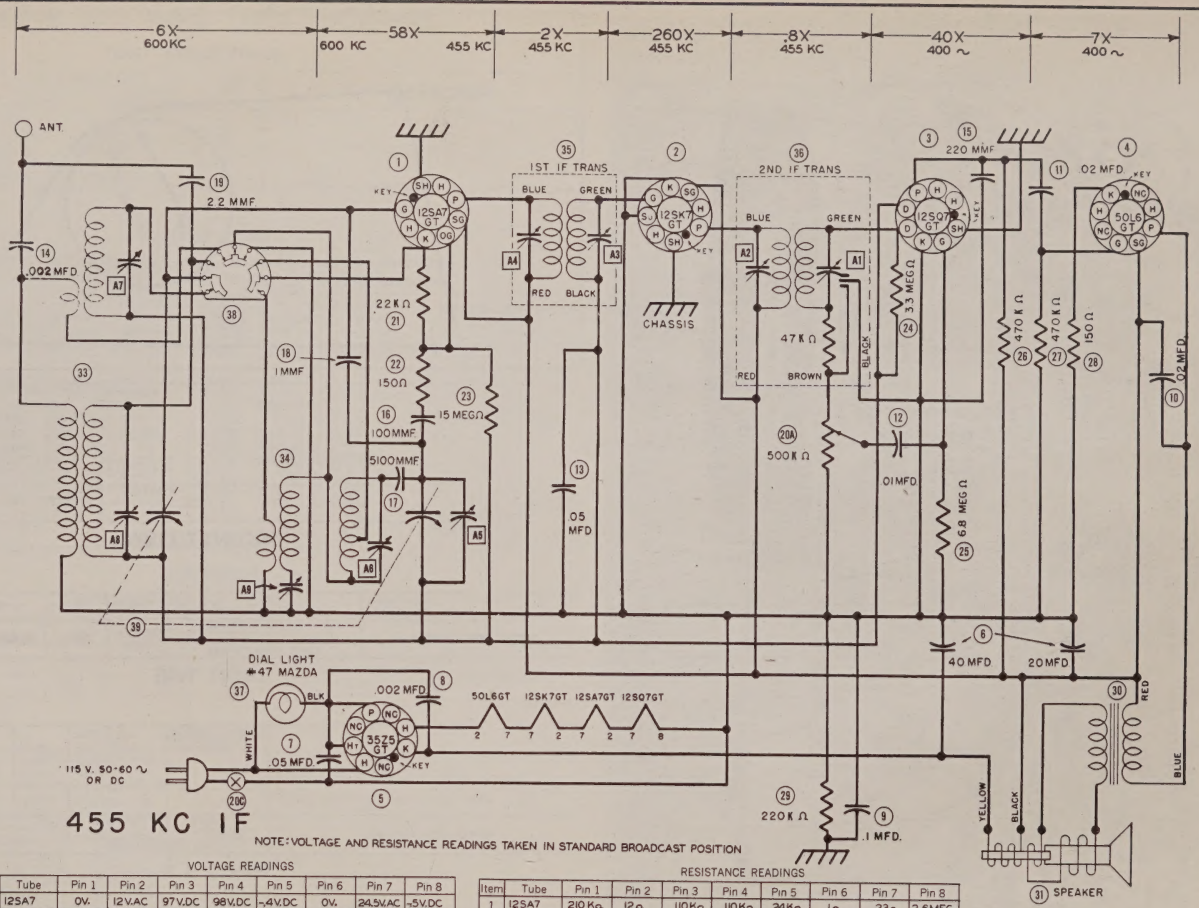


DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



AIRCASTLE MODEL 568



NOTE: VOLTAGE AND RESISTANCE READINGS TAKEN IN STANDARD BROADCAST POSITION

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7	0V.	12V.AC	97V.DC	98V.DC	-4V.DC	0V.	24.5V.AC	-5V.DC
2	12SK7GT	0V.	24.5V.AC	0V.	-5V.DC	0V.	98V.DC	36.8VAC	97V.DC
3	12SQ7	0V.	-75V.DC	0V.	-5V.DC	-5V.DC	55V.DC	12VAC	0V.
4	50L6GT	0V.	87V.AC	92V.DC	98V.DC	0V.	0V.	36.8V.AC	6.2V.DC
5	35Z5GT	0V.	117V.AC	112V.AC	0V.	112VAC	0V.	87V.AC	120V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7	210 KΩ	12Ω	110 KΩ	110 KΩ	24 KΩ	1Ω	23Ω	2.6 MEG.
2	12SK7GT	210 KΩ	23Ω	0Ω	2.6 MEG.	0Ω	110 KΩ	36Ω	110 KΩ
3	12SQ7	210 KΩ	6 MEG.	0Ω	460 KΩ	2.6 MEG.	580 KΩ	12Ω	0Ω
4	50L6GT	INF.	80Ω	110 KΩ	110 KΩ	460 KΩ	INF.	36Ω	150Ω
5	35Z5GT	INF.	109Ω	105Ω	INF.	105Ω	INF.	80Ω	110 KΩ

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RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

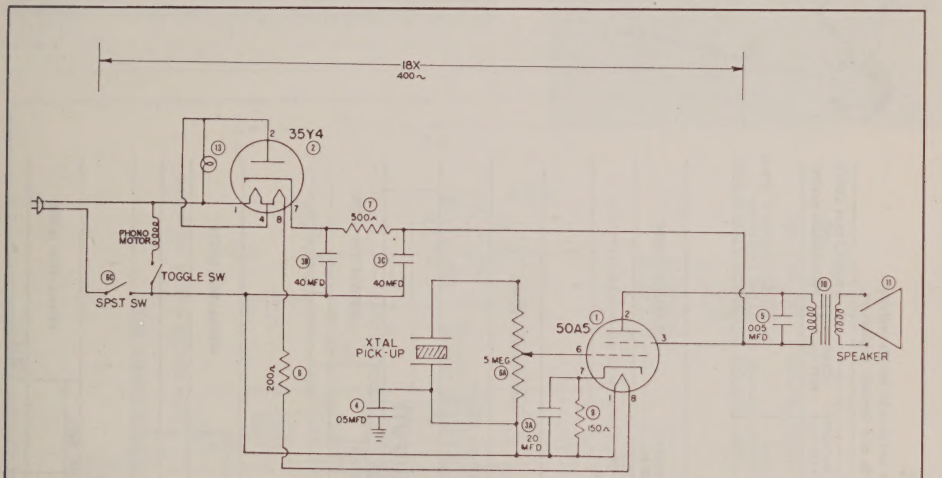
474-1

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

AIRCASTLE MODEL 621

TRADE NAME	Aircastle Model 621 (Ch. FJ-91)
SUPPLIER	Spiegel Inc., 1061 W. 35th St., Chicago, Ill.
TYPE SET	AC Operated Portable Phono. with 2 Tube Amplifier & Speaker
TUBES (TWO)	Types, 50A5 Power Amplifier, 35Y4 Rectifier.
POWER SUPPLY	105-125 Volts AC RATING .235 Amps. @ 117V AC



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	50A5	0V.	82VDC	97VDC	0V.	0V.	0V.	7.8VDC	55VAC
2	35Y4	117VAC	113VAC	0V.	113VAC	117VAC	0V.	123VDC	87VAC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	50A5	0Ω	35KΩ	35KΩ	0Ω	INF.	4.5MEG.	150Ω	5KΩ
2	35Y4	272Ω	270Ω	0Ω	270Ω	272Ω	0Ω	35KΩ	240Ω

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RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-2

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: AIRCASTLE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Power Output	50A5	50A5	6AA	
2	Rectifier	35Y4	35Y4	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AIRCASTLE PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
3A	40	150	A-25.020	TA-440	PRSA150-40-40	BRD4415	2N5111	DSB-305	Filter - Red
B	40	150							" - "
C	20	25		TA-25	PRS25-25	BR202A	TC26		Cath. Bypass - Green
4	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	Line Isolation
5	.005	600		TC-25	684-005	DT6D5	TP408	S-6-005	Output Plate Bypass

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIRCASTLE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
6A	5 Meg.	1	A-9.067	UC506		M-69-Z	Volume Control
B	Shaft		Not Req.	Not Req.		Not Req.	Attach to 6A per instructions
C	Switch		" "	6-9		SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIRCASTLE PART No.	IRC PART No.	IDENTIFICATION CODES
7	500Ω	2		BT-2-500	Grn.-Blk.-Br. Filter
8	200Ω	10		AB-200	Line Dropping
9	150Ω	1/2		BW-½-150	Br.-Grn.-Br. Output Cathode

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: AIRCASTLE PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
10	17000Ω	3.3Ω	155Ω	.5Ω	B11.037	A-3876	T22S45		

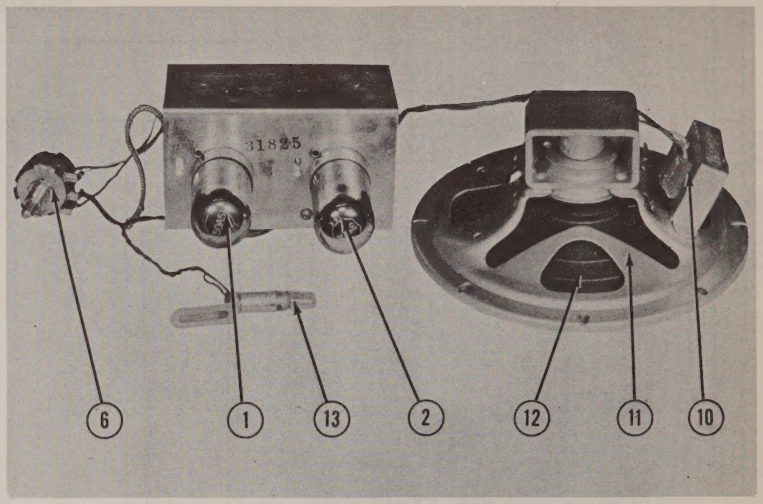
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: AIRCASTLE PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-1051		†Case must be drilled and tapped
11	PM	3.3Ω	B11.037	Mod. P5-X		
	CONE DIA.	VC DIA.				
12	4-5/8"	9/16"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT.		

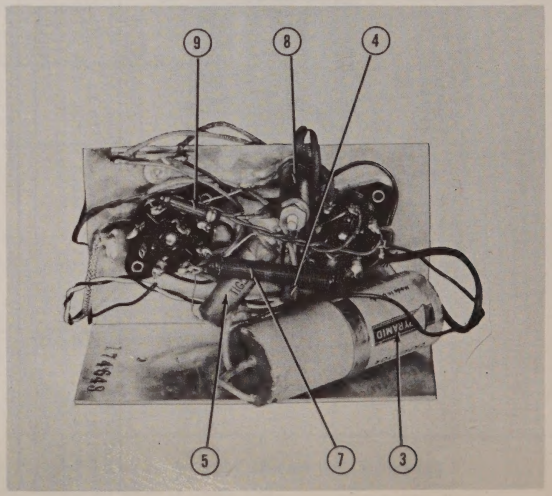
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: AIRCASTLE PART No.		INSTALLATION NOTES
13	Bayonet	6-8	0.15	Brown			Type 47

CHASSIS—TOP VIEW

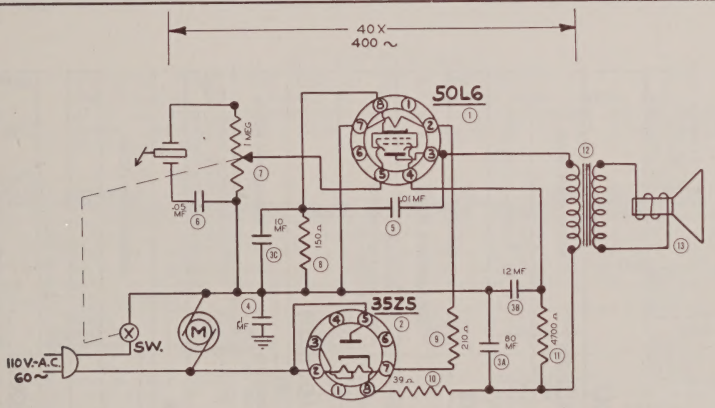


CHASSIS—BOTTOM VIEW



AIRCASTLE MODEL 7000, 7001

TRADE NAME	Aircastle, Model 7000, 7001
SUPPLIER	Spiegel Inc., 1061 W. 35th St., Chicago, Ill.
TYPE SET	AC Operated Phonograph with 2-Tube Amplifier and Speaker
TUBES (TWO)	Types, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-125 Volts AC RATING .240 Amp. @ 117 Volts AC



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	50L6GT	0V.	52 VAC	110 VDC	112 VDC	0V.	0V.	0V.	7.6 VDC
2	35Z5GT	0V.	117 VAC	110 VAC	0V.	117 VAC	0V.	85 VAC	130 VDC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	50L6GT	INF.	50 Ω	80 KΩ	85 KΩ	800 KΩ	INF.	0 Ω	138 Ω
2	35Z5GT	INF.	272 Ω	265 Ω	INF.	272 Ω	INF.	242 Ω	80 KΩ

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RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-3

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: AIRCASTLE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Power Output	50L6GT	50L6GT	7AC	
2	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AIRCASTLE PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
3A	80	150	EC-5	TA4401†	PRSA150-40-	E53215C‡		DSB-8040-150	Filter - Red
B	12	150		TA212	30/25-20			"	" - White
C	10	25			PRS150-40†			M-10-25	Cath. Bypass - Blue
4	.1	400	PC-8	TC-1	484-.1	DT4P1	TP428	S-4-1	Line Isolation
5	.01	400	RC-1	TC-11	484-01	DT431	TP421	S-4-01	Output Plate Bypass
6	.05	400	PC-5	TC-15	484-05	DT435	TP426	S-4-05	Phono Isolation

†Parallel two 40MFD sections to obtain 80MFD.
‡Parallel 50 and 30 MFD to obtain 80 MFD.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIRCASTLE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
7A	1 Meg.	1	VC-3	MK402	D13-137	AM-63-Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 7A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIRCASTLE PART No.	IRC PART No.	IDENTIFICATION CODES
8	150Ω	½	CR-11	BW-½-150	Br.-Grn.-Br. Output Cathode
9	210Ω	5	WR-1	ABA-250	Line Dropping-See Note 1
10	39Ω	½		BW-½-39	Or.-White-Blk. Surge Limiter
11	4700Ω	½		BTS-4700	Yl.-Vi.-Red Filter

Note 1 - On IRC replacement set slider at 210Ω from one end.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: AIRCASTLE PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
12	4000Ω	3.4Ω	370Ω	.8Ω	Part of SP-2	A-3856*	T22S46*		*Bend mounting tabs down, file out slots and mount on original bracket.

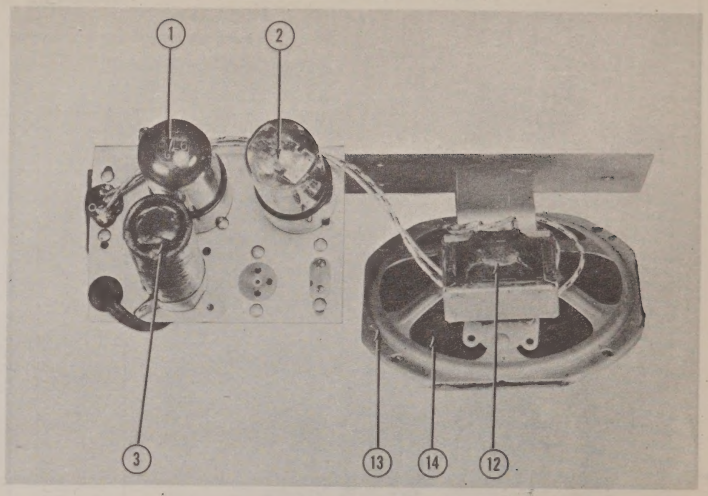
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: AIRCASTLE PART No.	JENSEN PART No.		INSTALLATION NOTES
13	FIELD	VC IMP.	SP-2	ST-105		
	PM	3.4Ω		Mod. P5-X		
14	CONE DIA.	VC DIA.	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			
	4-3/4"	1/2"				

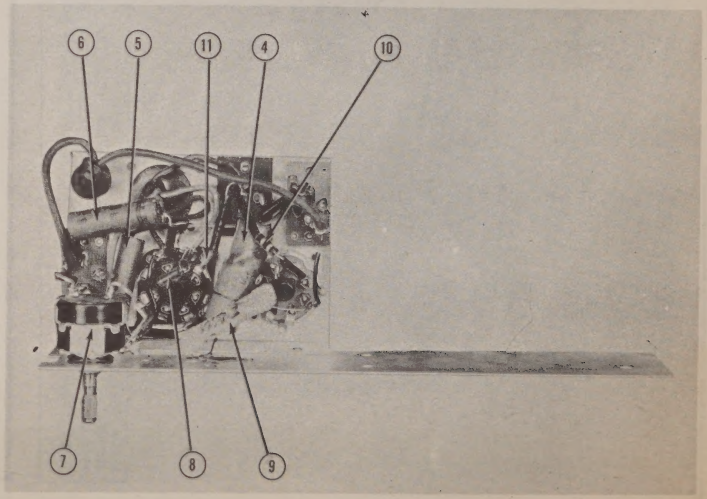
MISCELLANEOUS

ITEM No.	PART NAME	AIRCASTLE PART No.	NOTES
	XTAL Cartridge	PU-2	Type L-72
	Phono Motor	M-1	110 Volt - 9" Turntable

CHASSIS—TOP VIEW



CHASSIS—BOTTOM VIEW



AIR CHIEF
MODEL 4-A-2

AIR CHIEF
MODEL 4-A-2

AIR CHIEF MODEL 4-A-2

TRADE NAME	Air Chief, Model 4-A-2 (Code No. 297-6-LMMU-143)
SUPPLIER	The Firestone Tire & Rubber Co. 1200 Firestone Pkwy., Akron, Ohio
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (FIVE)	Types, 12BE6 Converter, 12BA6 IF Amp., 12AT6 Det.-AVC-AF, 50B5 Power Output, 35W4 Rectifier
POWER SUPPLY	110 - 120 Volts AC-DC
TUNING RANGE—BROADCAST	535-1720KC RATING .225 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set dial pointer turn variable fully closed and set pointer at last calibration mark to left on dial backplate. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05 MFD	High side to stator of rear section of variable. Low side to B-.	455KC	Any point of no interference	Across voice coil	A1,A2, A3.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
100MMFD	High side to ext. ant. lead. Low side to chassis.	1720KC	Variable fully open.	"	A4	Adjust for maximum output.
100MMFD	"	1400KC	Tune for maximum output.	"	A5	Adjust for maximum output. Check at 600KC for calibration

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: AIR CHIEF PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12BE6	12BE6	7CH	
2	IF Amp.	12BA6	12BA6	7BK	
3	Det.-AVC-AF	12AT6	12AT6	7BT	
4	Power Output	50B5	50B5	7BZ	
5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AIR CHIEF PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	35	150	N-3302	TA-330	PRSA150-40-40	EZ3315	2N520	DSB-2x30-150	Filter - Blue
B	30	150							" - Red
7	.05	400	N-1346	TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
8	.02	400	N-1376	TC-12	484-02	DT4S2	TP423	S-4-02	Output Plate Bypass
9	.01	400	N-1344	TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
10	.0005	600	N-4890	TC-35	1468-0005	DT6T5	TP403	S-6-0005	Audio Plate Bypass
11	.005	600	N-4894	TC-25	684-005	DT6D5	TP408	S-6-005	Audio Coupling
12	.05	200	N-1345	TC-15	484-05	DT4S5	TP426	S-4-05	Line Isolation
13	.05	200	N-1345	TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
14	100	500	N-1374	1FM-31	1468-0001	SW5T1	MC235	M0.5-31	IF Bypass Vol. Cont.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIR CHIEF PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
15A	500KΩ	1	N-4999	MK401	D13-133	AM-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 16A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "
15A	500KΩ	1	N-4843 #	MK401 #	D13-133#	AM-60-Z#	Volume Control - Alternate control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 16A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

#Install a 47KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from shaft side, terminals down.)

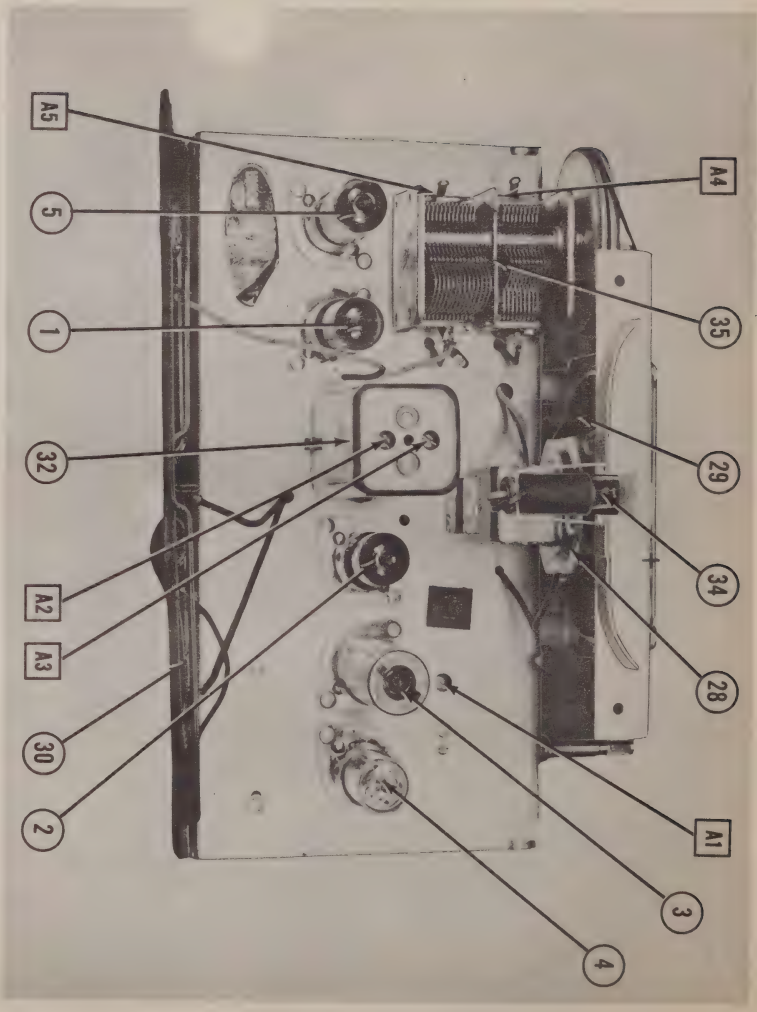
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIR CHIEF PART No.	IRC PART No.	IDENTIFICATION CODES
16	22KΩ	½	N-4025	BTS-22K	Red-Red-Or. Oscillator Grid
17	150Ω	½	N-3663	BW-½-150	Br.-Grn.-Br. IF Cathode
18	1 Meg.	½	N-1282	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
19	6.8 Meg.	½	N-4028	BTS-6.8 Meg.	Blue-Gray-Grn. 1st AF Grid
20	220KΩ	½	N-4026	BTS-220K	Red-Red-Yl. 1st AF Plate Load
21	470KΩ	½	N-4027	BTS-470K	Yl.-Vi.-Yl. Output Grid
22	220Ω	½	N-5632	BW-½-220	Red-Red-Br. Output Cathode
23	1000Ω	1	N-5358	BTA-1000	Br.-Blk.-Red Filter
24	33Ω	½	N-4022	BW-½-33	Or.-Or.-Blk. Surge Limiter
25	22Ω	1	N-5631	BW-1-22	Red-Red-Blk. Line Dropping
26	47KΩ	½	N-4063	BTS-47K	Yl.-Vi.-Or. Diode RF Filter

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: AIR CHIEF PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
27	3000Ω	3.7Ω	300Ω	.6Ω	N-3899	A-3876	T22S45†		†Drill one new mounting hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: AIR CHIEF PART No.	REPLACEMENT DATA: JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-113*		
26	PM	3.7Ω	N-4990	Mod. P4-λ		*Fabricate new mounting bracket.
	CONE DIA.	VC DIA.				
29	4"	1/2"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT.		

R F COILS

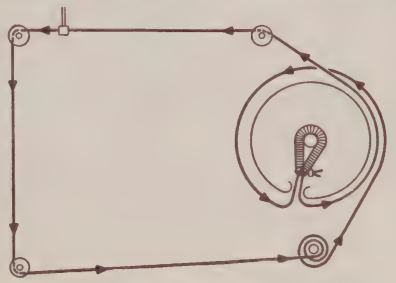
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: AIR CHIEF PART No.	REPLACEMENT DATA: MEISSNER PART No.
30	Loop Ant.	0Ω	1.4Ω	N-3875	
31	Osc. Coil	.8Ω	6.3Ω	N-4645	14-1040
32	Input IF	21Ω	20Ω	N-4813	16-6658
33	Output IF	29Ω	29Ω	N-4846	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: AIR CHIEF PART No.		INSTALLATION NOTES
34	Bayonet	6-8	0.15	Brown	N-1147		Type 47

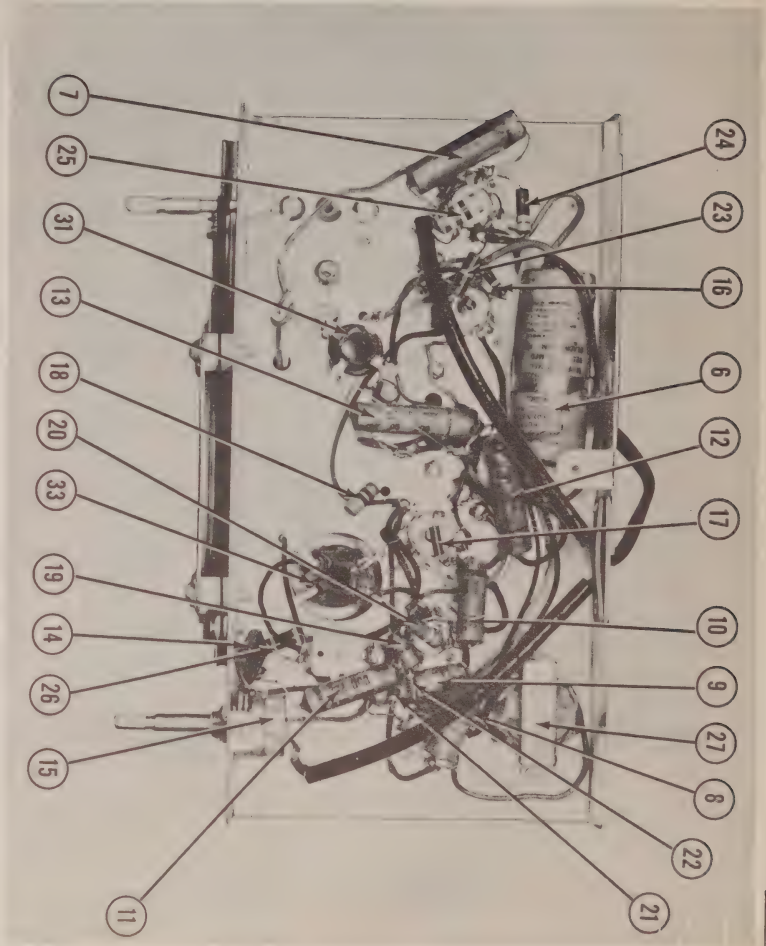
MISCELLANEOUS

ITEM No.	PART NAME	AIR CHIEF PART No.	NOTES
35	2 Gang Var. Cap	N-5290	(2x-447 MMF, 23-15o MMF)
	Dial Pointer	N-3861	
	Dial Scale	N-3926	

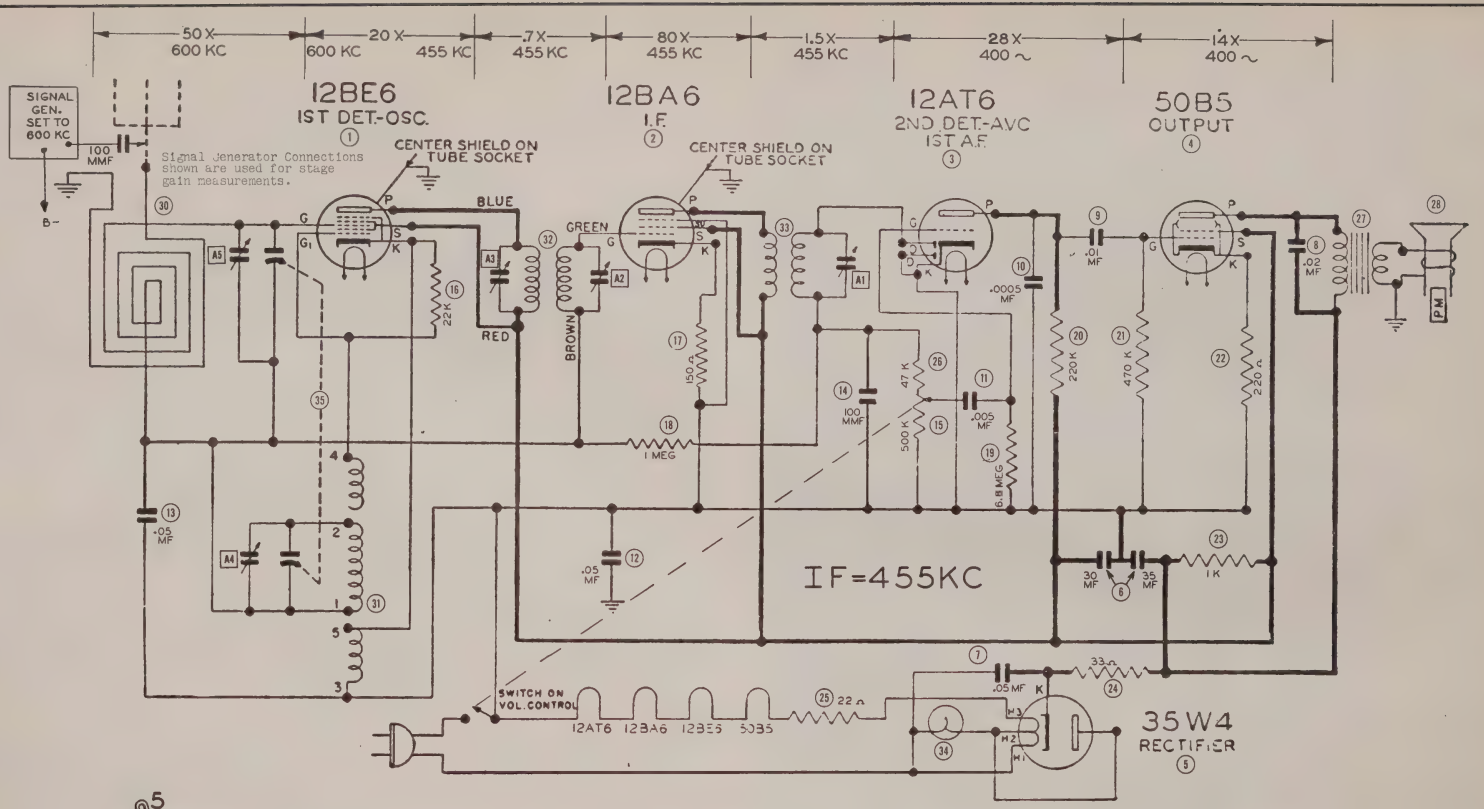


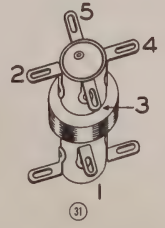
DIAL AND POINTER DRIVE CORD

CHASSIS—BOTTOM VIEW



AIR CHIEF MODEL 4-A-E





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	-4 V.DC	0 V.	25 V.AC	37 V.AC	93 V.AC	93 V.DC	0 V.
2	12BA6	0 V.	0 V.	25 V.AC	12 V.AC	93 V.AC	93 V.DC	1.7 V.DC
3	12AT6	-6 V.DC	0 V.	0 V.	12 V.AC	-5 V.DC	0 V.	56 V.DC
4	50B5	0 V.	7 V.DC	86 V.AC	37 V.AC	111 V.DC	93 V.DC	0 V.
5	35W4	86 V.AC	120 V.DC	89 V.AC	117 V.AC	113 V.AC	113 V.AC	122 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	16 KΩ	.5 Ω	23 Ω	34 Ω	30 KΩ	30 KΩ	1.3 MEG.
2	12BA6	1.3 MEG.	0 Ω	23 Ω	13 Ω	30 KΩ	30 KΩ	130 Ω
3	12AT6	5 MEG.	0 Ω	0 Ω	13 Ω	490 KΩ	0 Ω	250 KΩ
4	50B5	460 KΩ	210 Ω	78 Ω	34 Ω	30 KΩ	30 KΩ	460 KΩ
5	35W4	78 Ω	30 KΩ	94 Ω	120 Ω	117 Ω	117 Ω	30 KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-4

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

ATLAS MODEL AB-45

TRADE NAME	Atlas, Model AB-45
SUPPLIER	Atomic Heater & Radio Co., 102-104 Park Row, New York, N.Y.
TYPE SET	AC-DC Operated Two-Band Superheterodyne-Self Contained Loop Antenna
TUBES (SIX)	Types, 12SK7 RF Amp., 12SA7 Converter, 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 35L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
RATING	.255 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1750KC
SHORT WAVE	5.8-17.3 MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer parallel with base of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to front stator of variable. Low side to B-.	455KC	BC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
	Loop	1600KC	"	1600KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
	"	600KC	"	Tune for maximum output.	"	A6	Rock variable and adjust for maximum output. Repeat last two steps.
400Ω	High side to ext. ant. lead. Low side to B-.	15MC	SW	15MC	"	A7	Adjust for maximum output
400Ω	"	"	"	Tune for maximum output.	"	A8	Rock variable and adjust for maximum output.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: ATLAS PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SK7	12SK7	8N	
2	Converter	12SA7	12SA7	8R	
3	IF Amp.	12SK7	12SK7	8N	
4	Det.-AVC-AF	12SQ7	12SQ7	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT/G	35Z5GT/G	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ATLAS PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	50	150		TA-530	PRSA150-40-40	BRD3515	2N520	DSB-5030-150	Filter
B	30	150							"
8	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
9	.02	600		TC-12	684-02	DT6S2	TP412	S-6-02	Output Plate Bypass
10	.02	600		TC-12	684-02	DT6S2	TP412	S-6-02	Audio Coupling
11	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	IF Screen Bypass
12	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	Decoupling
13	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
14	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	IF Bypass Diode
15	1000	300		1FM-21	1468-001	1W5D1	MC455	M0.3-21	Audio Coupling
16	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	IF Bypass Vol. Cont.
17	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	Osc. Grid Capacitor
18	3000	300		1FM-23	1467-003	1W5D3	MC461	MW.5-23	Fixed Padder
19	100			1FM-31	1468-0001	5W5T1	MC235	M0.5-31	RF Coupling
20	1000	300		1FM-21	1468-001	1W5D1	MC455	M0.3-21	Ant. Coupling

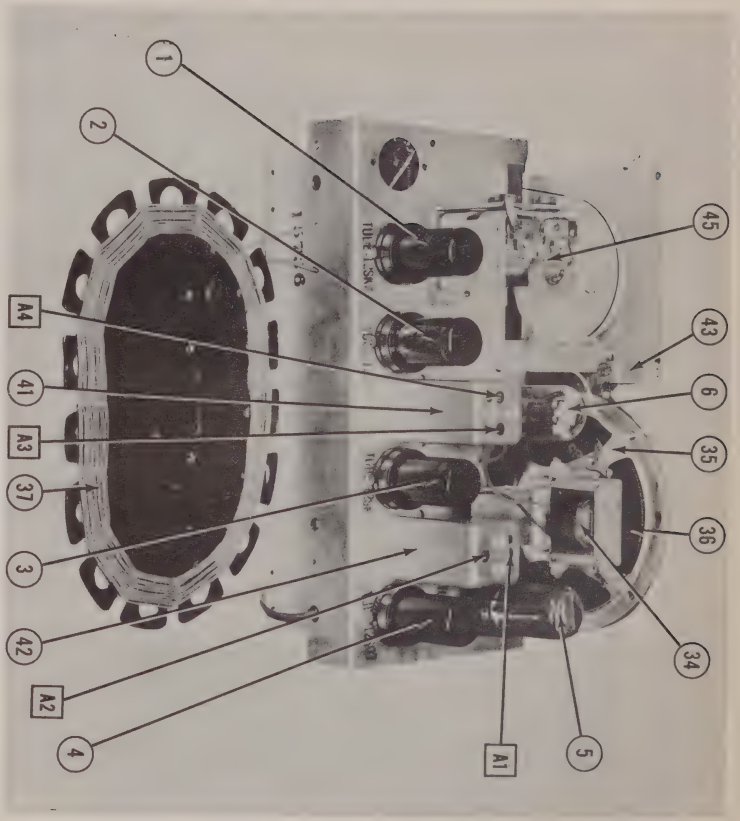
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ATLAS PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
21A	500KΩ			MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Reg.	A	Not Reg.	Attach to 21A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ATLAS PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
22	5100Ω	½		BTS-4700	Grn.-Br.-Red RF Plate Load
23	21KΩ	½		BTS-22K	Red-Br.-Or. Converter Grid
24	21KΩ	½		BTS-22K	Red-Br.-Or. Oscillator Grid
25	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
26	350Ω	½		BW-½-330	Or.-Grn.-Br. Voltage Dropping
27	350Ω	½		BW-½-330	Or.-Grn.-Br. IF Plate Decoupling
28	50KΩ	½		BTS-47K	Grn.-Blk.-Or. Diode RF Filter
29	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AF Grid
30	270KΩ	½		BTS-270K	Red-Vi.-Yl. AF Plate Load
31	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Output Grid
32	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
33	1000Ω	1		BTA-1000	Br.-Blk.-Red Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ATLAS PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
34	2300Ω	3.7Ω	215Ω	.6Ω		A-3876*	T22S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ATLAS PART No.	JENSEN PART No.		
35	FIELD PM	VC IMP. 3.7Ω		ST-105 Mod. P5-X		
36	CONE DIA. 4-5/8"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

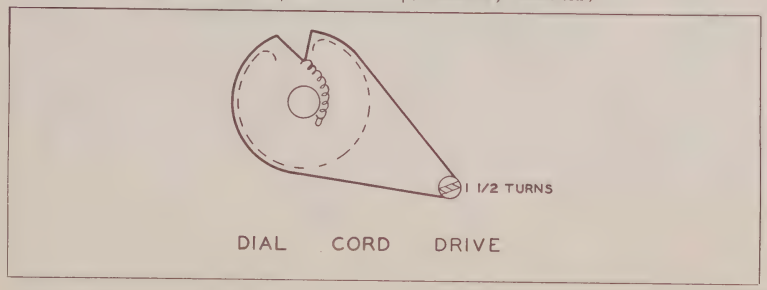
ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	ATLAS PART No.	MEISSNER PART No.	
37	Loop Ant.		1.1Ω			
38	SW Ant. Coil	0Ω	0Ω			
39	BC Osc. "		3.5Ω			
40	SW Osc. "		0Ω			
41	Input IF	23Ω	23Ω		16-6658	
42	Output IF	31Ω	31Ω	20110	16-6660	

DIAL LIGHT

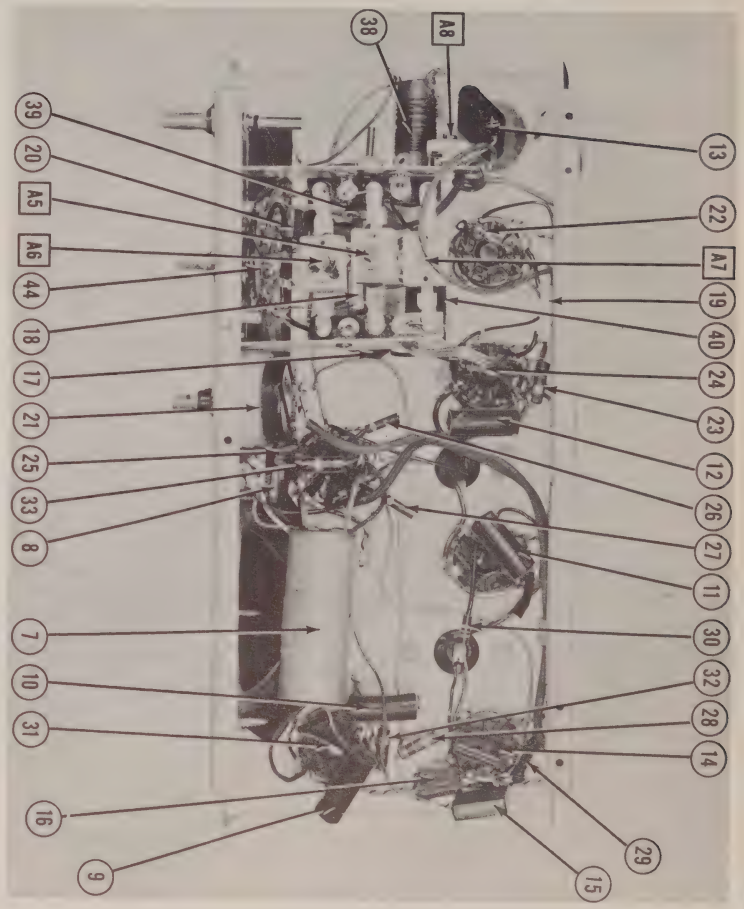
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					ATLAS PART No.		
43	Bayonet	6-8V	0.24	White			Type 51

MISCELLANEOUS

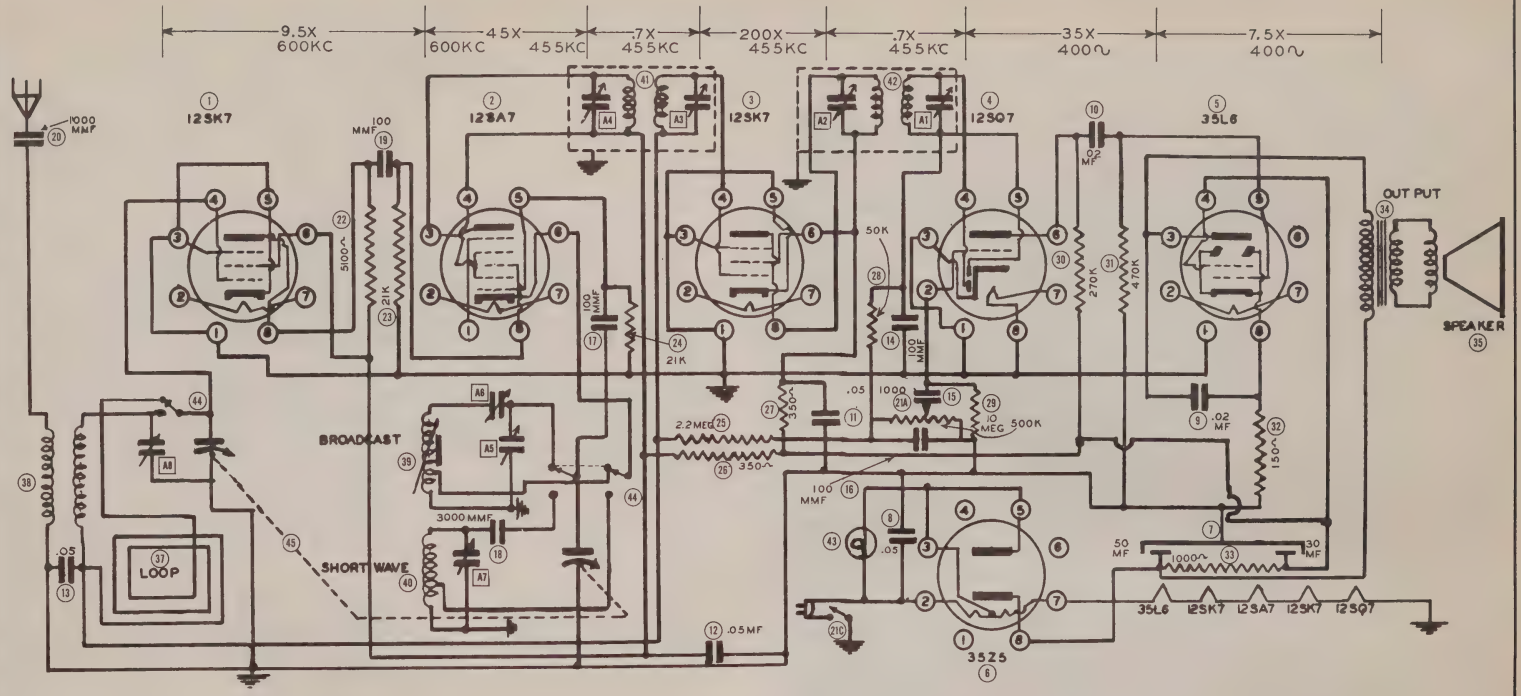
ITEM No.	PART NAME	ATLAS PART No.	NOTES
44	Bandswitch		4 P.D.T.
45	2 Gang Var. Cap.		(15-425 MMF, 15-425 MMF)



CHASSIS—BOTTOM VIEW



ATLAS MODEL AB-45



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NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN STANDARD BROADCAST POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7	0V.	24V.AC	0V.	⏚25V.DC	0V.	77V.DC	12V.AC	37V.DC
2	12SA7	0V.	37V.AC	75V.DC	75V.DC	-3.6V.DC	0V.	24V.AC	0V.
3	12SK7	0V.	49V.AC	0V.	⏚25V.DC	0V.	77V.DC	37V.AC	77V.DC
4	12SQ7	0V.	-4V.DC	0V.	⏚25V.DC	⏚25V.DC	52V.DC	12V.AC	0V.
5	35L6GT	0V.	49V.AC	110V.DC	82V.DC	0V.	0V.	86V.AC	4.6V.DC
6	35Z5GT	0V.	117V.AC	113V.AC	82V.DC	113V.AC	⏚25V.DC	86V.AC	117V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7	0Ω	22Ω	0Ω	2.3MEG	0Ω	100KΩ	11Ω	105KΩ
2	12SA7	0Ω	33Ω	100KΩ	100KΩ	19KΩ	.5Ω	22Ω	17KΩ
3	12SK7	0Ω	44Ω	0Ω	2.3MEG	0Ω	100KΩ	33Ω	100KΩ
4	12SQ7	0Ω	10 MEG	0Ω	430KΩ	430KΩ	370KΩ	11Ω	0Ω
5	35L6GT	0Ω	44Ω	100KΩ	100KΩ	410KΩ	INF.	74Ω	130Ω
6	35Z5GT	0Ω	97Ω	94Ω	100KΩ	94Ω	2.3MEG	74Ω	100KΩ

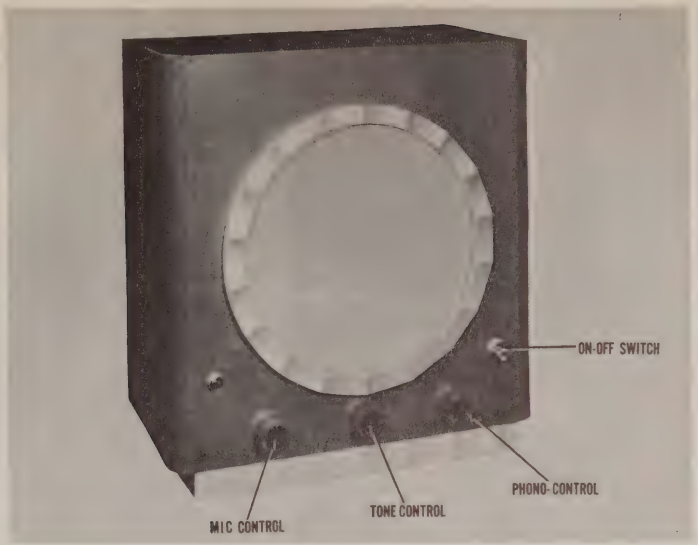
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-5

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



CARDWELL MODEL CE-26

TRADE NAME	Cardwell, Model CE-26
MANUFACTURER	Allen D. Cardwell Corp., 97 Whiting St., Plainville, Conn.
TYPE SET	AC Operated 6 Tube - 2 Channel Amplifier with Speaker
TUBES (SIX)	Types, 6SJ7GT Mike Amp., 6SL7GT Voltage Amp., 6SL7GT Voltage Amp. & Phase Inverter (2) 6V6GT Power Output, 5Y3GT Rectifier.
POWER SUPPLY	110 - 120 Volts AC RATING .680 Amp. @ 117 Volts AC

NOTE: ALL CONTROLS AT MAXIMUM.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SJ7GT	0V.	3.3V.AC	0V.	0V.	0V.	25V.DC	3.3V.AC	160V.DC
2	6SL7GT	0V.	82V.DC	1.2V.DC	0V.	85V.DC	1.2 V.DC	3.3V.AC	3.3V.AC
3	6SL7GT	0V.	120V.DC	1.6V.DC	0V.	130V.DC	1.6 V.DC	3.3V.AC	3.3V.AC
4	6V6GT	0V.	3.3V.AC	320V.DC	325V.DC	0V.	185V.DC	3.3V.AC	20V.DC
5	6V6GT	0V.	3.3V.AC	320V.DC	325V.DC	0V.	0V.	3.3V.AC	20V.DC
6	5Y3GT	0V.	360V.DC	-21V.DC	300V.AC	45V.AC	300V.AC	0V.	360V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SJ7GT	0Ω	∞Ω	0Ω	10MEG.	0Ω	26KΩ	∞Ω	160KΩ
2	6SL7GT	420KΩ	350KΩ	1300Ω	77KΩ	350KΩ	1300Ω	∞Ω	∞Ω
3	6SL7GT	400KΩ	210KΩ	875KΩ	16KΩ	210KΩ	875KΩ	∞Ω	∞Ω
4	6V6GT	INF.	∞Ω	110KΩ	110KΩ	470KΩ	110KΩ	∞Ω	220Ω
5	6V6GT	INF.	∞Ω	110KΩ	110KΩ	420KΩ	INF.	∞Ω	220Ω
6	5Y3GT	INF.	110KΩ	165Ω	262Ω	INF.	255Ω	INF.	110KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage and readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

HOWARD W. SAMS & CO., INC. Indianapolis Indiana

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: CARDWELL PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mic. Amp.	6SJ7GT	6SJ7GT	8N	
2	Voltage Amp.	6SL7GT	6SL7GT	8BD	
3	Voltage Amp.-Phase Inverter	6SL7GT	6SL7GT	8BD	
4	Power Output	6V6GT	6V6GT	7AC	
5	Power Output	6V6GT	6V6GT	7AC	
6	Rectifier	5Y3GT	5Y3GT	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CARDWELL PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	20	450	35-1201	EL-220	AF44J4A	UP7DJ52	FP339	DY-312	■ Filter
B	20	450		EL-2					▲ "
C	20	25							Cath. Bypass
8A	10	450	35-1203	EL-210	AF22J	UP1145	FP231	DY-2x10-450	■ Filter
B	10	450							▲ "
9	.01	600	35-1006	TC-11	684-01	DT6S1	TP410	S-6-01	Line Bypass *
10	.01	600	35-1006	TC-11	684-01	DT6S1	TP410	S-6-01	" " *
11	.001	600	35-1001	TC-21	684-001	DT6D1	TP404	S-6-001	Output Plate Bypass
12	.001	600	35-1001	TC-21	684-001	DT6D1	TP404	S-6-001	" " "
13	.02	600	35-1007	TC-12	684-02	DT6S2	TP412	S-6-02	Audio Coupling
14	.02	600	35-1007	TC-12	684-02	DT6S2	TP412	S-6-02	" "
15	.02	600	35-1007	TC-12	684-02	DT6S2	TP412	S-6-02	" "
16	.01	600	35-1006	TC-11	684-01	DT6S1	TP410	S-6-01	Tone Compensation
17	.01	600	35-1006	TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
18	.01	600	35-1006	TC-11	684-01	DT6S1	TP410	S-6-01	Tone Compensation
19	10000	600	35-0901	1FM-11	1467-01	1D3S1	MC475	MW.3-11	Mic. Coupling

*Not used in all models.

CONTROLS

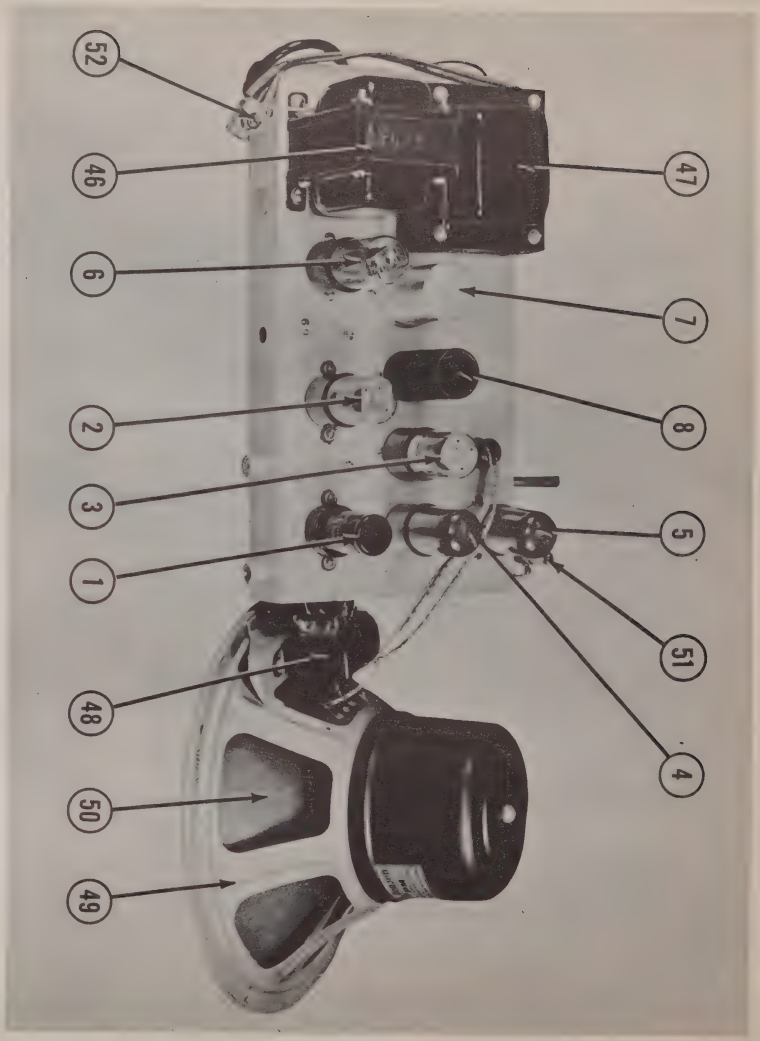
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CARDWELL PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
20A	1 Meg.	1	40-0015	TM243	D18-137XX#	T-112	Phono Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 20A per instructions
21A	500KΩ	1	40-0017	MR48	D13-133	M-60-Z	Mike Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 21A per instructions
22A	500KΩ	1	40-0020	MR48	D13-133	M-60-Z	Tone Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 22A per instructions

#Use 2nd tap only.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CARDWELL PART No.	IRC PART No.	IDENTIFICATION CODES
23	10 Meg.	½	80-0337	BTS-10 Meg.	Br.-Blk.-Blue Mike Amplifier Grid
24	50KΩ	1		BTA-47K	Grn.-Blk.-Or. Mike Amplifier Plate Load
25	220KΩ	½	80-0253	BTS-220K	Red-Red-Yl. Mike Amplifier Screen Dropping
26	33KΩ	½	80-0243	BTS-33K	Or.-Or.-Or. Bleeder
27	22KΩ	½	80-0241	BTS-22K	Red-Red-Or. Tone Compensation
28	100KΩ	½	80-0249	BTS-100K	Br.-Blk.-Yl. AF Grid
29	1500Ω	½	80-0227	BTS-1500	Br.-Grn.-Red AF Cathode
30	220KΩ	½	80-0253	BTS-220K	Red-Red-Yl. AF Plate Decoupling
31	220KΩ	½	80-0253	BTS-220K	Red-Red-Yl. Phono Amplifier Plate Decoupling
32	22KΩ	½	80-0241	BTS-22K	Red-Red-Or. AF Plate Load
33	50KΩ	1		BTA-47K	Grn.-Blk.-Or. Voltage Dropping
34	470KΩ	½	80-0257	BTS-470K	Yl.-Vi.-Yl. Driver Grid
35	1000Ω	½	80-0225	BTS-1000	Br.-Blk.-Red Driver Cathode
36	100KΩ	½	80-0249	BTS-100K	Br.-Blk.-Yl. Driver Plate Load
37	100KΩ	½	80-0249	BTS-100K	Br.-Blk.-Yl. Phase Inverter Plate Load

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	CARDWELL PART No.	IRC PART No.	
38	18KΩ	½	80-0079	BTS-18K	Br.-Gray-Or. Phase Inverter Grid
39	470KΩ	½	80-0257	BTS-470K	Yl.-Vi.-Yl. Output Grid
40	470KΩ	½	80-0257	BTS-470K	Yl.-Vi.-Yl. Output Grid
41	220Ω	2	80-2217	BW-2-220	Red-Red-Br. Output Cathode
42	1 Meg.	½	80-0261	BTS-1 Meg.	Br.-Blk.-Grn. Feedback
43	1 Meg.	½	80-0261	BTS-1 Meg.	Br.-Blk.-Grn. Feedback
44	300	2		BW-2-330	Or.-Or.-Br. Bias
45	300	2		BW-2-330	Or.-Or.-Br. "

FILTER CHOKE

ITEM NO.	RATINGS			REPLACEMENT DATA			INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000~)	CARDWELL PART NO.	STANCOR PART NO.	THORDARSON PART NO.	
46	.078A	390Ω	20 Henries	92-0003	C-1420†	T20C53†	†Drill new mounting holes.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	CARDWELL PART No.	STANCOR PART No.	THORDARSON PART No.	
47	117V AC @ .68A	700V CT @ .078A	5.1V AC @ 2.0A	6.6V AC @ 2.1A	92-1002.	P-8013	T22R05	

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		CARDWELL PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
48	6700Ω CT	6Ω	290Ω CT	1.3Ω	92-1006	A-3823	T22S56		

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			CARDWELL PART No.	JENSEN PART No.		
49	FIELD	VC IMP.	100-0001	ST-120		
	PM	6Ω		Mod. P10-S		
50	CONE DIA.	VC DIA.	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
	9-3/4"	1"				

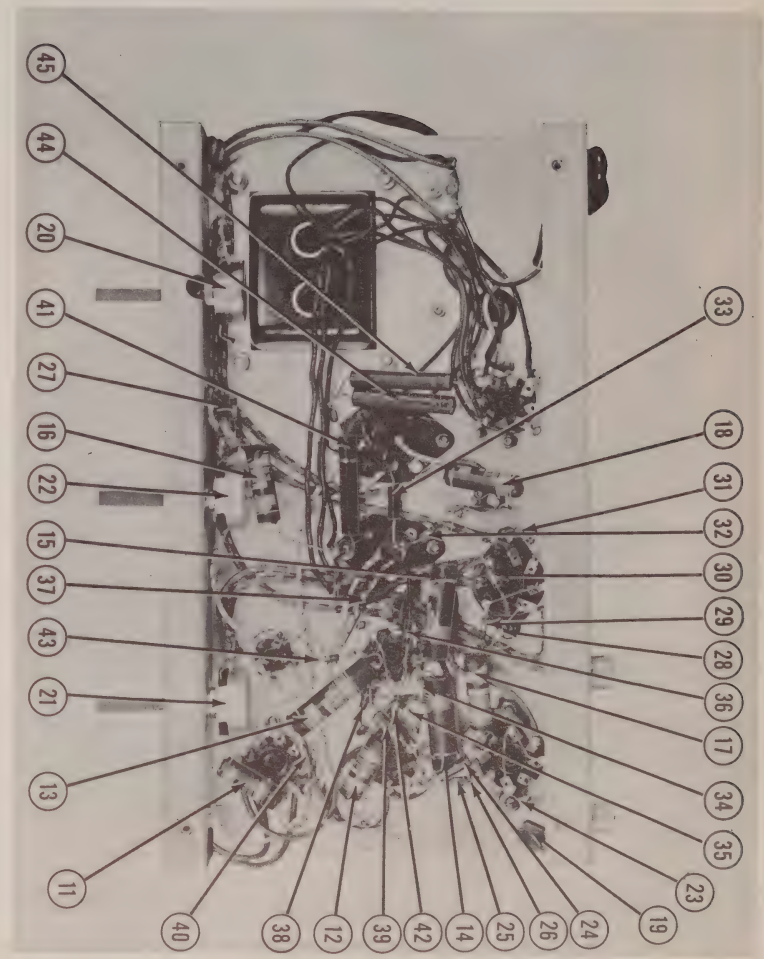
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					CARDWELL PART No.		
51	Bayonet	6-8	0.25	Blue			Type 44

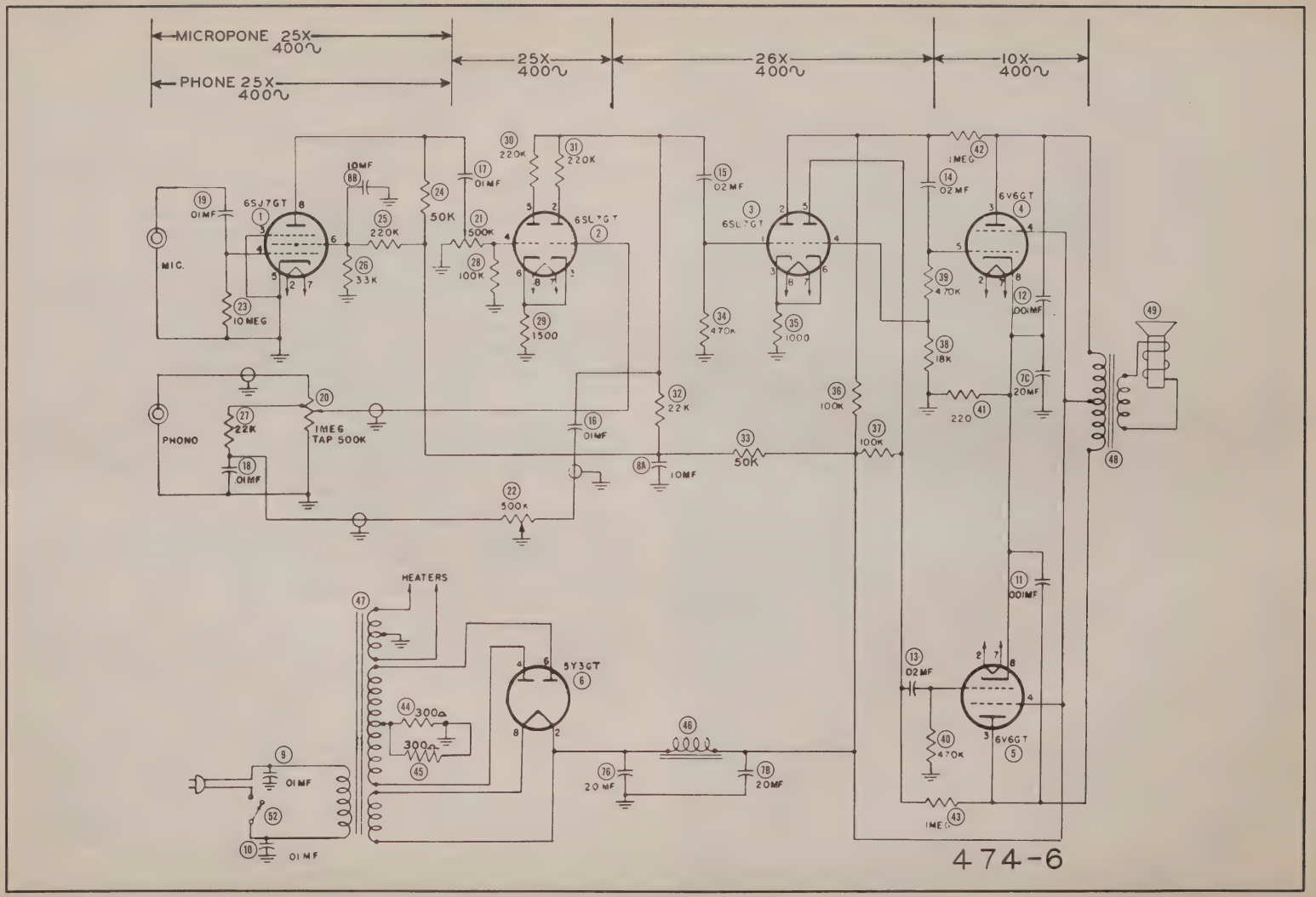
MISCELLANEOUS

ITEM No.	PART NAME	CARDWELL PART No.	NOTES
52	On-off Switch	28-0005	Toggle SPST
	Transformer	92-1002	Power, 110-220V, 50-60 Cycle (Supplied with CE-26E-Export Model)

CHASSIS—BOTTOM VIEW



CARDWELL MODEL CE-26


MICROPONE 25X 400~
PHONE 25X 400~
25X 400~
26X 400~
10X 400~
MIC.
PHONO
6SJ7GT
6SL7GT
6V6GT
5Y3GT
IMEG TAP 500K
HEATERS
474-6

ECA
MODEL 102

ECA
MODEL 102

ECA MODEL 102

TRADE NAME	ECA, Model 102
MANUFACTURER	Electronic Corp. of America, 170 53rd St., Brooklyn 32, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (FIVE)	Types, 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110 - 125 Volts AC-DC
TUNING RANGE—BROADCAST	530-1740KC RATING .260 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed and set pointer 1-13/16" from left edge of dial backplate. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to rear stator of variable. Low side to B-.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
200 MMFD	High side to ext. ant. lead. Low side to chassis.	1500KC	5-13/16" from left edge of dial backplate.	"	A5	Adjust for maximum output.
200 MMFD	"	1500KC	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		ECA PART No.	STANDARD REPLACEMENT		
1	Converter	12SA7GT	12SA7GT	8AD	
2	IF Amp.	12SK7	12SK7	8N	
3	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	ECA PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	
6A	50	150	S-CE122M	TA-530	PRSA150-40-40	BRD3515	2N520	DSB-5030-150	Filter - Red
B	30	150							" - Green
7	.05	400		TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
8	.02	400		TC-12	484-02	DT4S2	TP423	S-4-02	Audio Coupling
9	.02	400		TC-12	484-02	DT4S2	TP423	S-4-02	" "
10	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	" "
11	.2	200		TC-2	484-.2	DT4P2	TP428	S-4-2	Line Isolation
12	.004	600		TC-24	684-004	DT6D4	TP407	S-6-004	Ext. Ant. Isolation
13	250	500		1FM-325	1468-00025	5W5T25	MC240	MO.5-325	Audio Plate Bypass
14	250	500		1FM-325	1468-00025	5W5T25	MC240	MO.5-325	IF Bypass Diode
15	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	Osc. Grid Capacitor

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	ECA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
16A	2 Meg.	1		MR55	D13-137	M-66-Z	Volume Control - Later Production
B	Shaft			Not Req.	A	Not Req.	Attach to 16A per instructions
C	Switch			M26	41	SW-A	" " " " "
16A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control - Early Production
B	Shaft			Not Req.	A	Not Req.	Attach to 16A per instructions
C	Switch			M26	41	SW-A	" " " " "

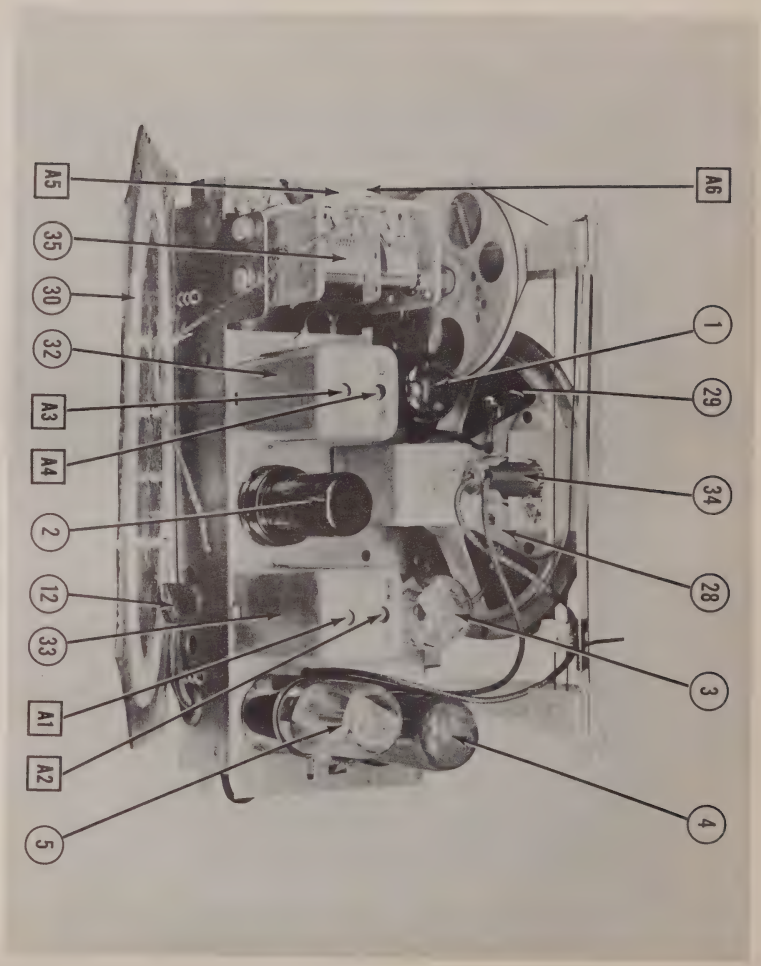
RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ECA PART No.	IRC PART No.	
17	27KΩ	½		BTS-27K	Red-Vi.-Or. Oscillator Grid
18	220KΩ	½		BTS-220K	Red-Red-Yl. Line Isolation
19	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
20	50KΩ	½		BTS-47K	Grn.-Blk.-Or. Diode RF Filter
21	4.7 Meg.	½		BTS-4.7 Meg.	Yl.-Vi.-Grn. AF Grid
22	220KΩ	½		BTS-220K	Red-Red-Yl. AF Plate Load
23	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Output Grid
24	150Ω	1		BW-1-150	Br.-Grn.-Br. Output Cathode
25	25KΩ	1		BTA-27K	Red-Vi.-Or. Voltage Divider Bias
26	1500Ω	2		BT-2-1500	Br.-Grn.-Red Filter

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ECA PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
27	2450Ω	3.2Ω	177Ω	1.02Ω	S-TA115	A-3378*	T22548*		*Drill one new mounting hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ECA PART No.	JENSEN PART No.		
28	FIELD PM	VC IMP. 3.25Ω	S-CL-104	ST-107 Mod. P5-V		
29	CONE DIA. 4-5/8"	VC DIA. 9/16"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT.		

R F COILS

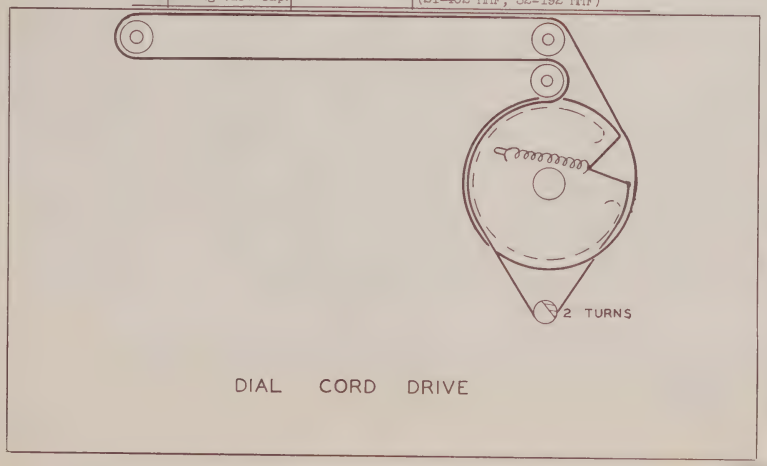
ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	ECA PART No.	MEISSNER PART No.	
30	Loop Ant.	.2Ω	3Ω			
31	Osc. Coil		6Ω	SLR-120		
32	Input IF	14.5Ω	15.5Ω	SLR-127	16-6658	
33	Output IF	29Ω	29Ω	SLR-122	16-6660	

DIAL LIGHT

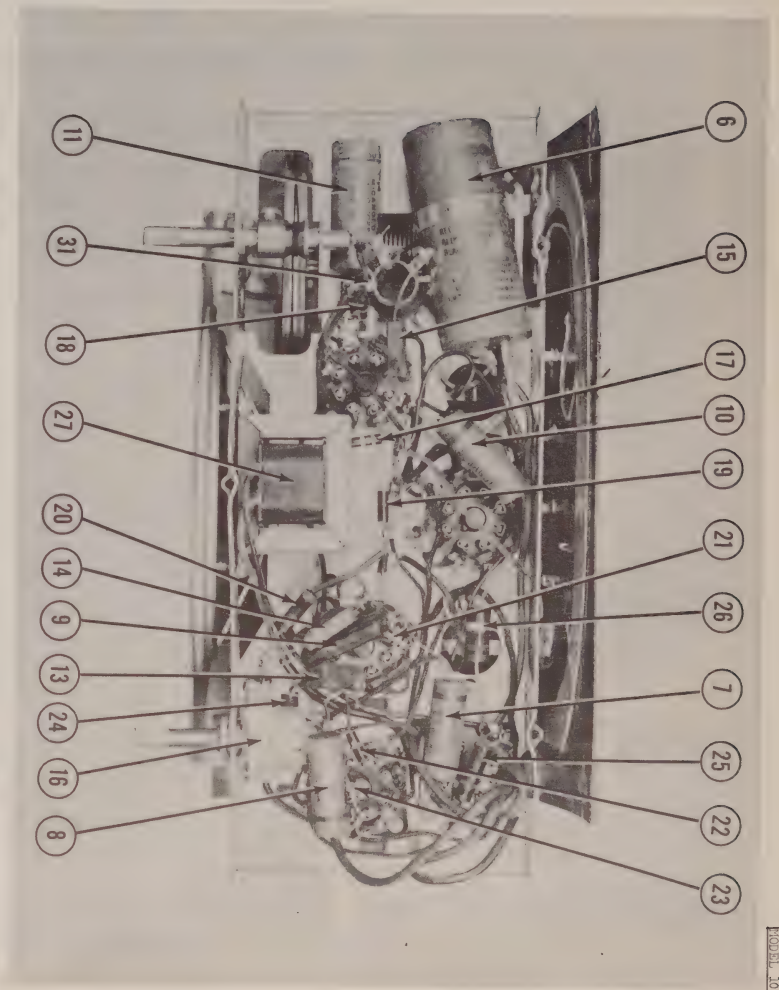
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					ECA PART No.		
34	Bayonet	6-8	0.15	Brown			Type 47

MISCELLANEOUS

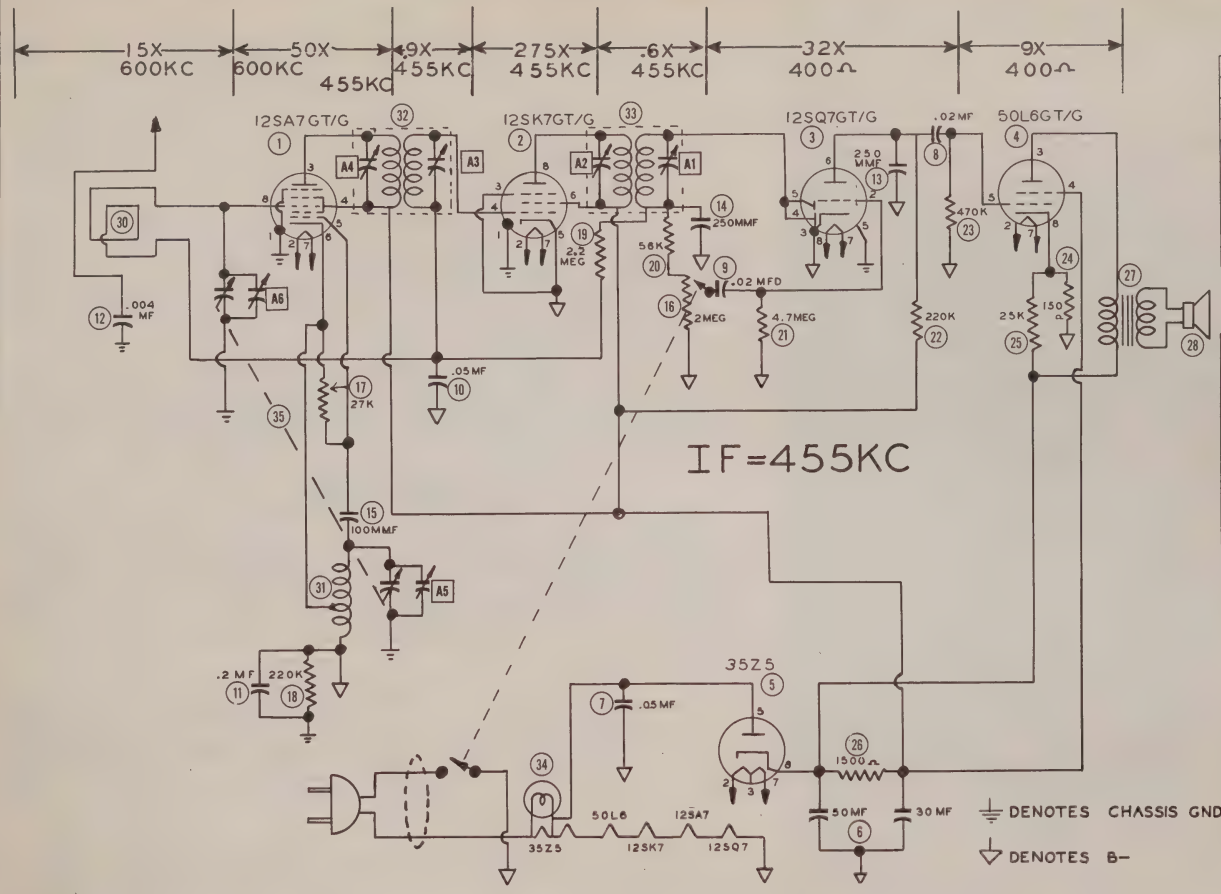
ITEM No.	PART NAME	ECA PART No.	NOTES
35	2 Gang Var. Cap.		(21-462 MMF, 32-192 MMF)



CHASSIS—BOTTOM VIEW



ECA 100BL 102



Pin No.	12SA7GT Volt	12SA7GT Res	12SK7 Volt	12SK7 Res
1	0V.	240KΩ	0V.	240KΩ
2	24V.AC	22Ω	24V.AC	22Ω
3	87V.DC	20KΩ	0V.	0Ω
4	87V.DC	20KΩ	-3V.DC	3.7MEG.
5	-5.7V.DC	26KΩ	0V.	0Ω
6	0V.	.5Ω	87V.DC	20KΩ
7	12V.AC	1Ω	35V.AC	34Ω
8	-3V.DC	3.7MEG.	87V.DC	20KΩ

Pin No.	12SQ7GT Volt.	12SQ7GT Res	50L6GT Volt	50L6GT Res.
1	0V.	240KΩ	0V.	INF.
2	-2V.DC	4.5MEG.	35V.AC	34Ω
3	0V	0Ω	118V.DC	20KΩ
4	-55V.DC	1.9 MEG.	87V.DC	20KΩ
5	-55V.DC	1.9 MEG.	0V.	420KΩ
6	67V.DC	240KΩ	0V.	INF.
7	0V.	0Ω	88V.AC	78Ω
8	12V.AC	1Ω	5.6V.DC	122Ω

Pin No.	35Z5GT Volt.	35Z5GT Res
1	0V.	0Ω
2	117V.AC	103Ω
3	113V.AC	100Ω
4	5.6V.DC	122Ω
5	113V.AC	100Ω
6	0V.	INF.
7	88V.AC	78Ω
8	123V.DC	20KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 474-7

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

ECHOPHONE MODEL EC-306

TRADE NAME	Echophone, Models EC-306, EX-306
MANUFACTURER	The Hallicrafters Co., 2611 S. Indiana Ave., Chicago, Ill.
TYPE SET	AC Operated Automatic Phono-Radio Combination Superheterodyne-Self Contained Loop Antenna
TUBES (SIX)	Types, 12SA7GT Converter, 12SK7 1st IF Amp., 12SK7 2nd IF Amp., 12SF7 Det.-AVC-AF, 35L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC RATING .255 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1625KC **SHORT WAVE** 2.2-7.1MC 6.9-22MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer parallel to base line at low frequency end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Band spread pointer should be at zero and volume control at maximum volume. Output of signal generator should be no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting. RMA dummy consists of 200 MMFD cap in series with a 20 microhenry RF Choke, the choke being shunted by a 400 MMFD cap in series with a 400Ω carbon resistor.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
Direct	High side to rear stator of variable. Low side to B-.	455KC	1	1625KC	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, use .001 MFD. as dummy ant. to reduce hum modulation.
RMA Dummy	High side to "Ant" terminal and low side to "Gnd" terminal of ant. terminal strip.	1500KC	"	1500KC	"	A5	Adjust for maximum output.
"	"	"	"	Tune for maximum output.	"	A6	" " " "
"	"	600KC	"	"	"	A7	Rock variable and adjust for maximum output.
Repeat last three steps until no further improvement can be made.							
"	"	22MC	3	22MC	"	A8	Loosen drive pulley set screw, set band spread pointer to zero and adjust A8 for maximum output. Tighten set screw leaving band spread pointer set at zero.
"	"	20MC	"	Tune for maximum output.	"	A9	Rock variable and adjust for maximum output.
"	"	6MC	2	6MC	"	A10	Adjust for maximum output.
"	"	"	"	Tune for maximum output.	"	A11	Rock variable and adjust for maximum output.

ECHOPHONE
MODELS EC-306, EX-306

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: HALLICRAFTERS PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7GT/G	12SA7GT/G	8AD	
2	1st IF Amp.	12SK7	12SK7	8N	
3	2nd IF Amp.	12SK7	12SK7	8N	
4	Det.-AVC-AF	12SF7	12SF7	7AZ	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: HALLICRAFTERS PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	40	150	45B095	EL-443	AF886D4A	EZ44315C	FP409	DY-419	Filter - Red
B	30	150							" - Yellow
C	30	150							" - "
D	20	25							Cath. Bypass - Blue
8	.01	600	46AX103F	TC-11	684-01	DT6S1	TP410	S-6-01	Line Filter
9	.01	600	46AX103F	TC-11	684-01	DT6S1	TP410	S-6-01	Output Plate Bypass
10	.01	600	46AX103F	TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
11	.001	600	46AZ102H	TC-21	684-001	DT6D1	TP404	S-6-001	Tone Compensation
12	.01	600	46AX103F	TC-11	684-01	DT6S1	TP410	S-6-01	Audio Screen Bypass
13	.005	600	46AZ502J	TC-25	684-005	DT6D5	TP408	S-6-005	Audio Coupling
14	.005	600	46AZ502J	TC-25	684-005	DT6D5	TP408	S-6-005	Tone Compensation
15	.01	600	46AX103F	TC-11	684-01	DT6S1	TP410	S-6-01	AVC Filter
16	.05	600	46AY503J	TC-15	684-05	DT6S5	TP415	S-6-05	Line Isolation
17	.05	600	46AY503J	TC-15	684-05	DT6S5	TP415	S-6-05	Phono Isolation
18	.01	600	46AX103F	TC-11	684-01	DT6S1	TP410	S-6-01	Conv. Plate Decoupling
19	.1	600	46AX104J	TC-1	684-.1	DT6P1	TP418	S-6-1	Conv. Cathode Bypass
20	.01	600	46AX103F	TC-11	684-01	DT6S1	TP410	S-6-01	Ant. Coupling
21	.01	600	46AX103F	TC-11	684-01	DT6S1	TP410	S-6-01	Grd. Isolation
22	220	500	CM20A221M	1FM-325	1468-00025	5W5T25	MC240	MO.5-325	Audio Plate Bypass
23	100	500	CM20A101M	1FM-31	1468-0001	5W5T1	MC235	MO.5-31	IF Coupling
24	100	500	CM20A101M	1FM-31	1468-0001	5W5T1	MC235	MO.5-31	IF Bypass Vol. Cont.
25	100	500	CM20A101M	1FM-31	1468-0001	5W5T1	MC235	MO.5-31	IF Coupling
26	2400	500	CM30A242M						Fixed Padder
27	4300	500	CM35A432K						" "
28	47	500	CM20A470M	1FM-45	1468-00005	5W5Q5	MC225	MO.5-45	Osc. Grid Capacitor
29	100	500	CM20A101M	1FM-31	1468-0001	5W5T1	MC235	MO.5-31	RF Coupling

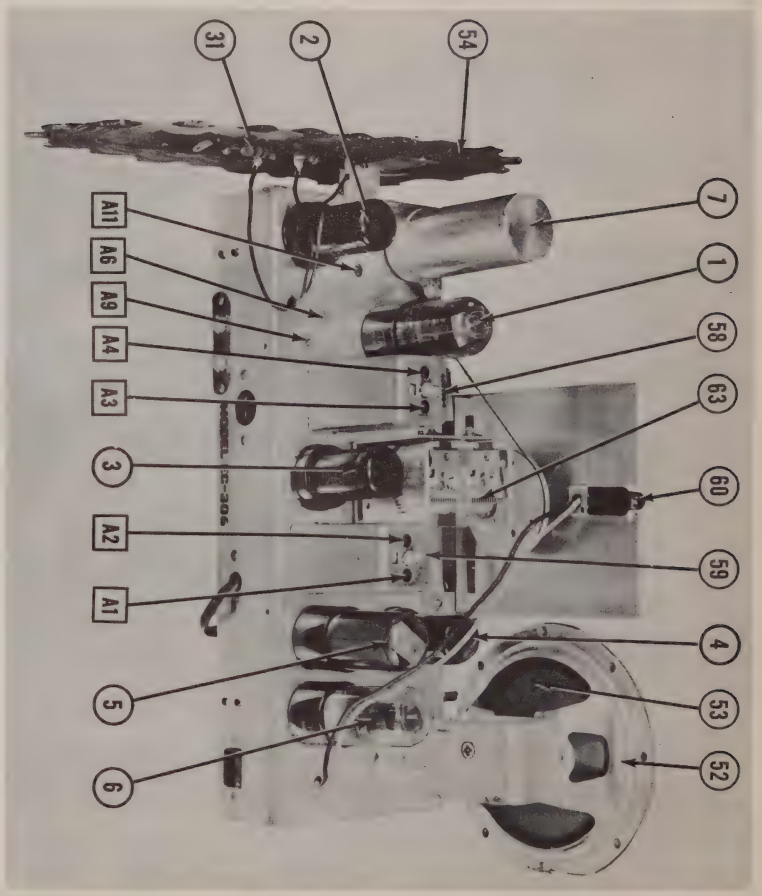
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: HALLICRAFTERS PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
30A	2 Meg.	1	25A561	TM248	D17-139X	AT-119	Volume Control
B	Shaft		Not Req.	SS25	E	KSS-3	Attach to 30A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: HALLICRAFTERS PART No.	IRC PART No.	IDENTIFICATION CODES
31	1000Ω	½	RC20A102M	BTS-1000	Br.-Blk.-Red Br.-Blk.-Red Antenna Loading
32	1 Meg.	½	RC20AE105M	BTS-1 Meg.	Br.-Blk.-Grn. Converter Grid
33	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Grid
34	47Ω	½	RC20AE470M	BW-½-47	Yl.-Vi.-Blk. Converter Cathode
35	1000Ω	½	RC20A102M	BTS-1000	Br.-Blk.-Red Converter Plate Decoupling
36	4700Ω	2		BT-2-4700	Yl.-Vi.-Red 1st IF Plate Load
37	470KΩ	½	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. 2nd IF Grid
38	330KΩ	½	RC20AE334M	BTS-330K	Or.-Or.-Yl. Line Isolating

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	HALLI-CRAFTERS PART No.	IRC PART No.	
39	2.2 Meg.	½	RC20AE228M	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
40	47KΩ	½	RC20AE473M	BTS-47K	Yl.-Vi.-Or. Tone Compensation
41	470KΩ	½	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. Diode RF Filter
42	10 Meg.	½	RC20AE106M	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
43	470KΩ	½	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. AF Plate Load
44	2.2 Meg.	½	RC20AE228M	BTS-2.2 Meg.	Red-Red-Grn. AF Screen Dropping
45	470KΩ	½	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. Output Grid
46	150Ω	½	RC20AE151M	BW-½-150	Br.-Grn.-Br. Output Cathode
47	22Ω	1	RC30AE220M	BW-1-22	Red-Red-Blk. Surge Limiter
48	220Ω	2		BW-2-220	Red-Red-Br. Filter
49	680Ω	2		BT-2-680	Blue-Gray-Br. Filter
50	220Ω	1	RC20AE221M	BW-1-220	Red-Red-Br. Pilot Light Shunt

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		HALLI-CRAFTERS PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
51	2000Ω	3.3Ω	240Ω	1Ω	55B060-2	A-3876	T22S45		

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			HALLICRAFTERS PART No.	JENSEN PART No.		
52	FIELD PM	VC IMP. 3.3Ω	85B038	ST-107* Mod. P5-V		*Fabricate new mounting bracket and trim flange to clear cabinet.
53	CONE DIA. 4-3/4"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

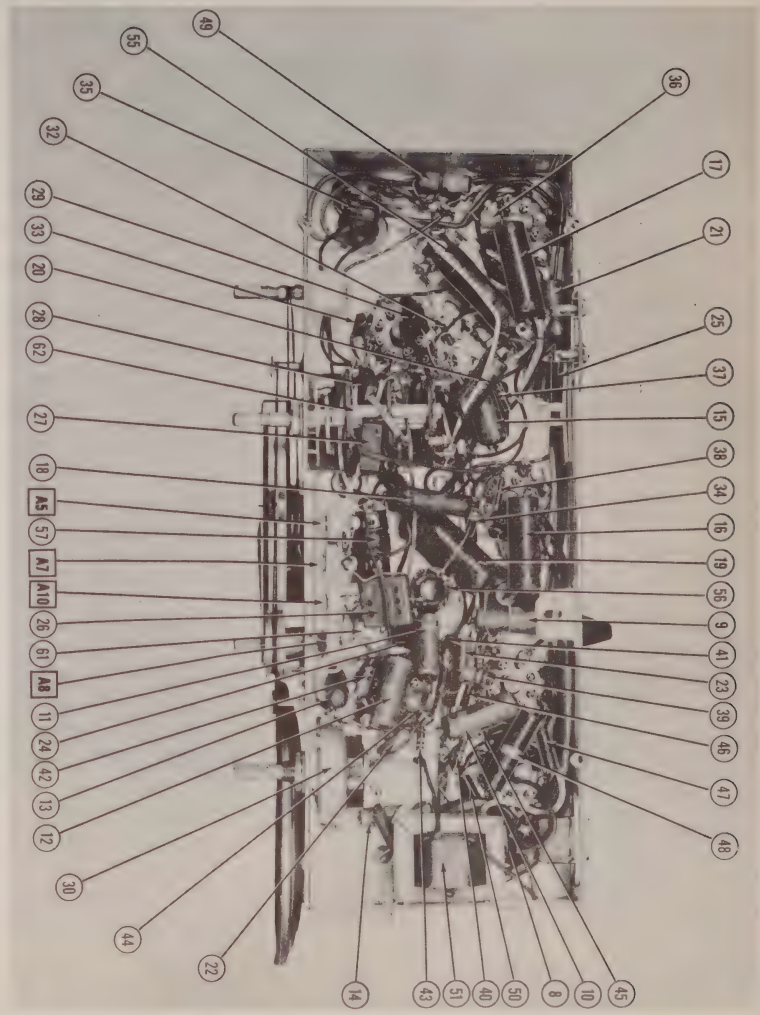
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	HALLI-CRAFTERS PART No.	MEISSNER PART No.	
54	Loop Ant.	.2Ω	1.5Ω	57C104		
55A	SW Ant.Coil (Band2		1.3Ω	51B814		55A & 55B wound on same form
B	" " " (Band3)		.2Ω			
56	Osc. Coil		6Ω	51A811	14-1040	
57A	SW Osc.Coil (Band2		1Ω	51B815		57A & 57B wound on same form
B	" " " (Band3)		.1Ω			
58	Input IF	9.1Ω	9Ω	50B196-5	16-6658	
59	Output IF	24Ω	23Ω	50B196-2	16-6660	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					HALLI-CRAFTERS PART No.		
60	Bayonet	6-8	0.15	Brown	39A004		Type 47

CHASSIS—BOTTOM VIEW



NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN STANDARD BROADCAST POSITION.

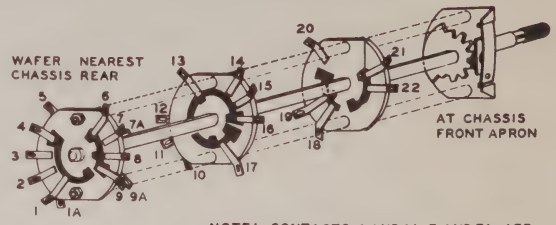
VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7	-2 V.DC	12 V.AC	72 V.DC	72 V.DC	-3.3 V.DC	4 V.DC	25 V.AC	-25 V.DC
2	12SK7	-2 V.DC	25 V.AC	0 V.	-25 V.DC	0 V.	80 V.DC	38 V.AC	43 V.DC
3	12SK7	-2 V.DC	38 V.AC	0 V.	-3 V.DC	0 V.	80 V.DC	49 V.AC	80 V.DC
4	12SF7	-2 V.DC	-6 V.DC	0 V.	6.5 V.DC	-3 V.DC	18 V.DC	0 V.	12 V.AC
5	35L6GT	-2 V.DC	49 V.AC	97 V.DC	80 V.DC	0 V.	-25 V.DC	85 V.AC	5.6 V.DC
6	35Z5GT	-2 V.DC	117 V.AC	113 V.AC	105 V.DC	113 V.AC	120 V.DC	85 V.AC	122 V.DC

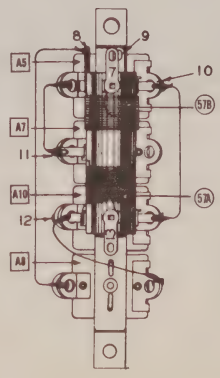
RESISTANCE READINGS

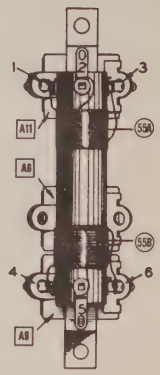
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7	310 K Ω	12 Ω	81 K Ω	81 K Ω	24 K Ω	47 Ω	24 Ω	5 MEG.
2	12SK7	310 K Ω	24 Ω	0 Ω	4 MEG.	0 Ω	80 K Ω	35 Ω	85 K Ω
3	12SK7	310 K Ω	35 Ω	0 Ω	4.5 MEG.	0 Ω	80 K Ω	46 Ω	80 K Ω
4	12SF7	310 K Ω	10 MEG.	0 Ω	2.2 MEG.	2.3 MEG.	550 K Ω	0 Ω	12 Ω
5	35L6GT	310 K Ω	48 Ω	80 K Ω	80 K Ω	390 K Ω	4 MEG.	77 Ω	150 Ω
6	35Z5GT	310 K Ω	103 Ω	100 Ω	80 K Ω	100 Ω	80 K Ω	77 Ω	80 K Ω

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



NOTE: CONTACTS 1 AND 1A; 7 AND 7A ARE INSULATED FROM EACH OTHER. CONTACTS 9 AND 9A ARE COMMON.





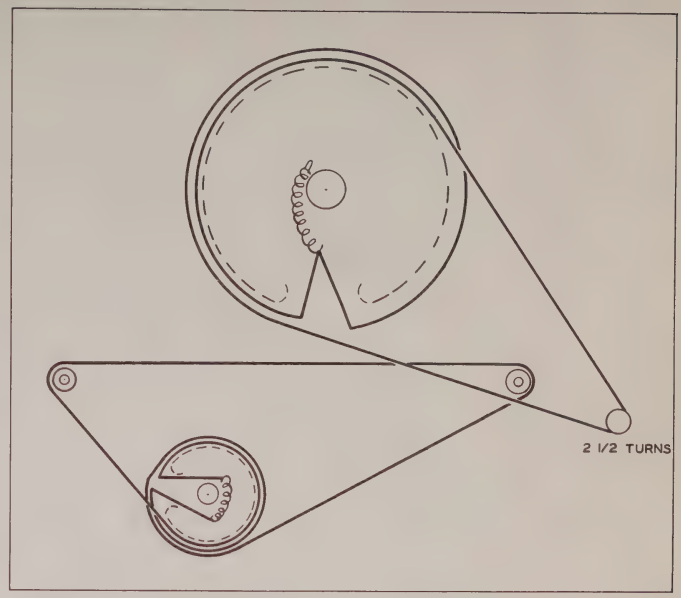
PARTS LIST AND DESCRIPTIONS (Continued)

MISCELLANEOUS

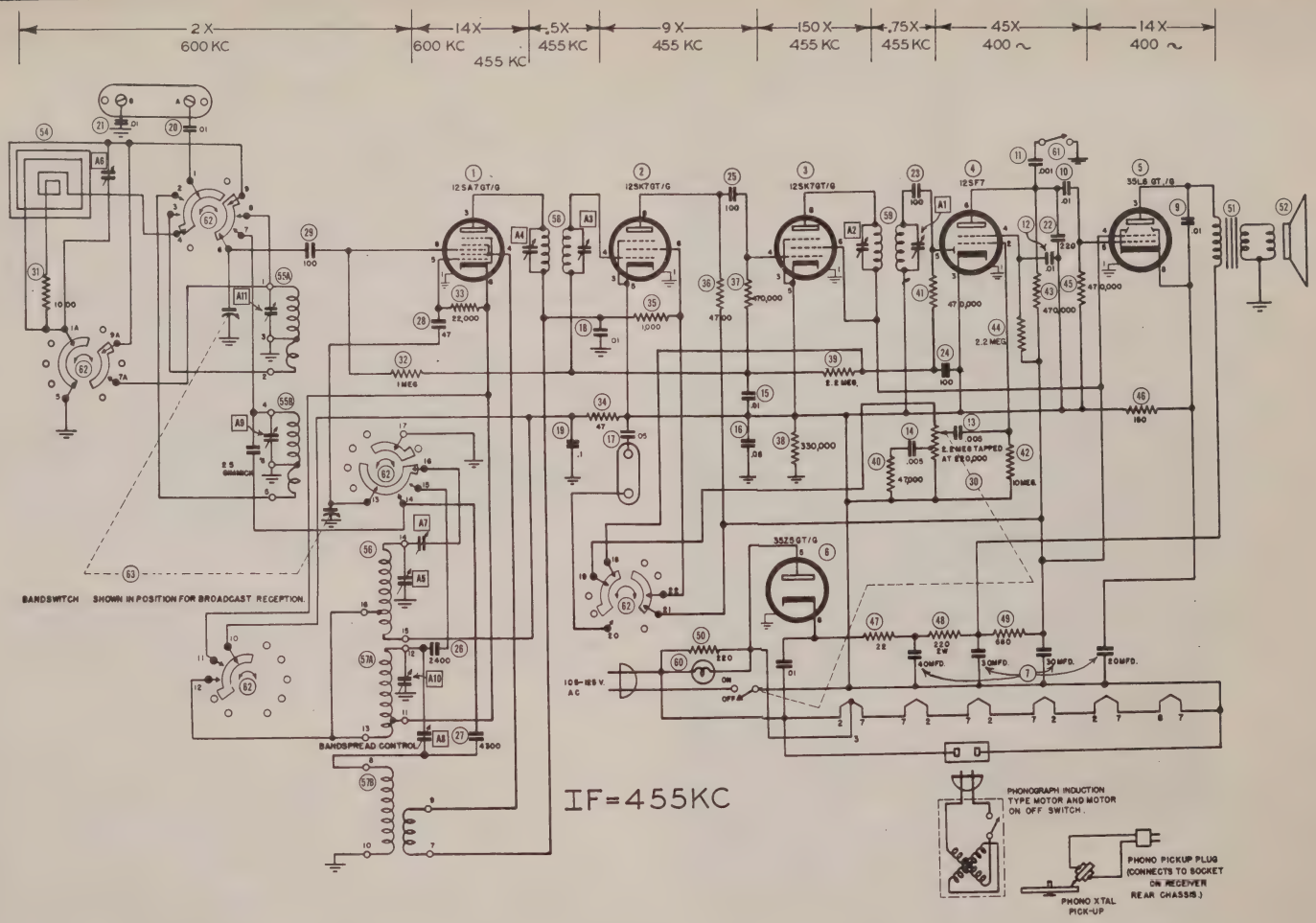
ITEM No.	PART NAME	HALLI-CRAFTERS PART No.	NOTES
61	Tone Switch	60A246	
62	Phono-Tone Sw.	60B251	3 Section, 4 Position Rotary
63	2 Gang Var. Cap	48B165	(12.3-354.6 MMF each section)
A6	Trimmer Strip	44A162	BC Ant. Trimmer
A9			SW (6.9-22MC Band) Ant. Trimmer
A11			SW (2.2-7.1MC Band) " "
A5	Trimmer Strip	44B161	BC Osc. Trimmer
A7			BC Osc. Padder
A8			SW (6.9-22MC Band) Osc. Trimmer
A10			SW (2.2-7.1MC Band) Osc. Trimmer
	Indicator	82A106	Main Tuning
	"	82A107	Bandspread Tuning
	Dial Scale	83B271	
	Record Changer	115C001-1	Model EC-306 only
	"	115C003-1	" EX-306

DISASSEMBLY INSTRUCTIONS

1. Remove the push-on type control knobs from the radio receiver.
2. Disconnect the phono-motor plug from chassis.
3. Disconnect the phono-pickup plug from chassis.
4. Remove the four machine screws from the receiver chassis board. Remove chassis and board from cabinet.
5. Remove four hex head machine screws holding chassis to chassis board. Remove chassis board.



DIAL CORD DRIVES



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 474-8

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

ELECTRO MODEL B20

TRADE NAME	Electro, Model B20
SUPPLIER	Electro Appliances Mfg. Co., 102-104 Park Row, New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver.
TUBES (SIX)	Types, 6SK7 RF Amp., 12SA7 Converter, 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 35L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540-1750KC RATING .270 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed and set pointer parallel with base of dial backplate at low frequency end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum volume. Output of signal generator should be no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to grid 12SA7 (Pin8) Low side to chassis.	456KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
50MMFD	High side to ant. screen lead. Low side to chassis.	"	Variable fully closed.	"	A5	Adjust for minimum output.
50MMFD	"	1750KC	"	"	A6	Adjust for maximum output.
50MMFD	"	1600KC	Tune for maximum output.	"	A7	" " " "
50MMFD	"	600KC	"	"	A8	Remove dial plate. Rock variable and adjust for maximum output. Repeat last three steps until no further increase can be obtained. Replace dial plate.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: ELECTRO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SK7	12SK7	8N	
2	Converter	12SA7	12SA7	8R	
3	IF Amp.	12SK7	12SK7	8N	
4	Det.-AVC-AF	12SQ7	12SQ7	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ELECTRO PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	40	150		TA-440	PRSA150-40-40	BRD4415	2N511	DSB-2x40-150	Filter - Red
B	40	150							" - Green
8	.05	200		TC-15	464-05	DT4S5	TP426	S-4-05	Line Filter
9	.02	200		TC-12	464-02	DT4S2	TP423	S-4-02	Output Plate Bypass
10	.02	600		TC-12	684-02	DT6S2	TP412	S-6-02	Audio Coupling
11	.05	200		TC-15	464-05	DT4S5	TP426	S-4-05	AVC Filter
12	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	Tone Compensationn*
13	1000	300		1FM-21	1468-001	1W5D1	MC255	MO.3-21	Audio Coupling*
14	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	IF Bypass Vol. Cont.
15	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	Osc. Grid Capacitor
16	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	RF Coupling
17	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	" "
18	1000	300		1FM-21	1468-001	1W5D1	MC255	MO.3-21	Ant. Isolation
42	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	IF Bypass Diode

*Not used in all models.

CONTROLS

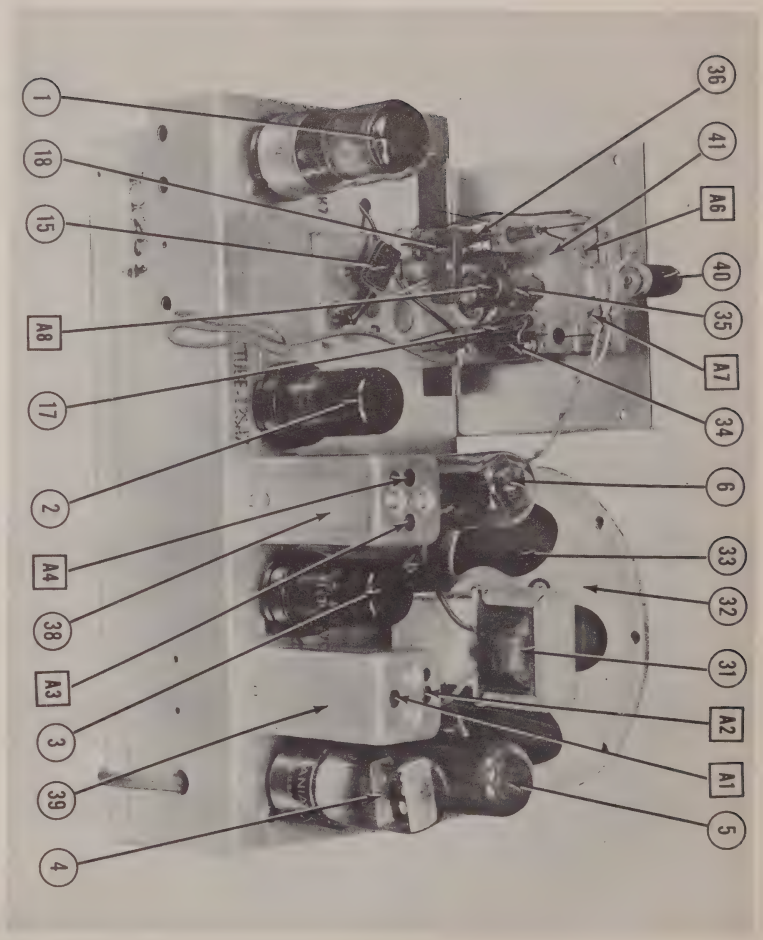
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ELECTRO PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 19A per instr.
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ELECTRO PART No.	IRC PART No.	IDENTIFICATION CODES
20	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. RF Grid
21	5500Ω	½		BTS-5600	Grn.-Grn.-Red RF Plate Load
22	20KΩ	½		BTS-22K	Red-Blk.-Or. Converter Grid
23	20KΩ	½		BTS-22K	Red-Blk.-Or. Oscillator Grid
24	3.3 Meg.	½		BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
25	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Diode RF Filter-See Note 1
26	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AF Grid
27	270KΩ	½		BTS-270K	Red-Grn.-Yl. AF Plate Load
28	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Output Grid
29	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
30	1000Ω	1		BTA-1000	Br.-Blk.-Red Filter-See Note 2

Note 1 - Some models use 47KΩ in this application.
Note 2 - Used only on models using PM speaker.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ELECTRO	STANCOR	THORDAR'N		
	PRI.	SEC.	PRI.	SEC.	PART No.	PART No.	PART No.		
31	20000Ω	3Ω	140Ω	.8Ω		A-3876 †	T25545 †		† Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ELECTRO PART No.	JENSEN PART No.		
	FIELD	VC IMP.		ST-10b		
32A	PM	3Ω		Mod. P5-X		
	CONE DIA.	VC DIA.				
33	4-3/4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
32B						Alternate Dynamic Speaker

R F COILS

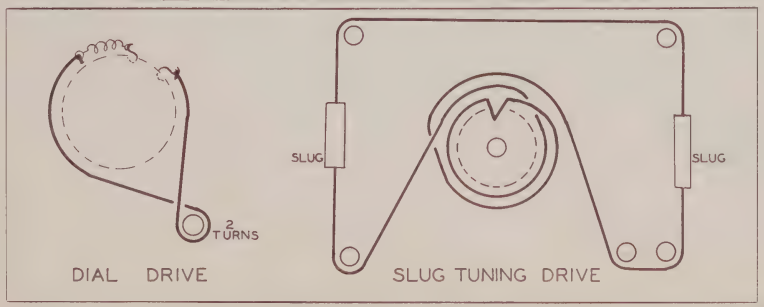
ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	ELECTRO PART No.	MEISSNER PART No.	
34	Ant. Coil		11Ω			
35	Osc. Coil		8Ω			
36	Osc. Shunt Coil		7Ω			34, 35, 36 in tuning assy.
37	Wave Trap		25Ω			
38	Input IF	25Ω	22Ω	NH251029-2	16-6658	
39	Output IF	29Ω	29Ω		16-6660	

DIAL LIGHT

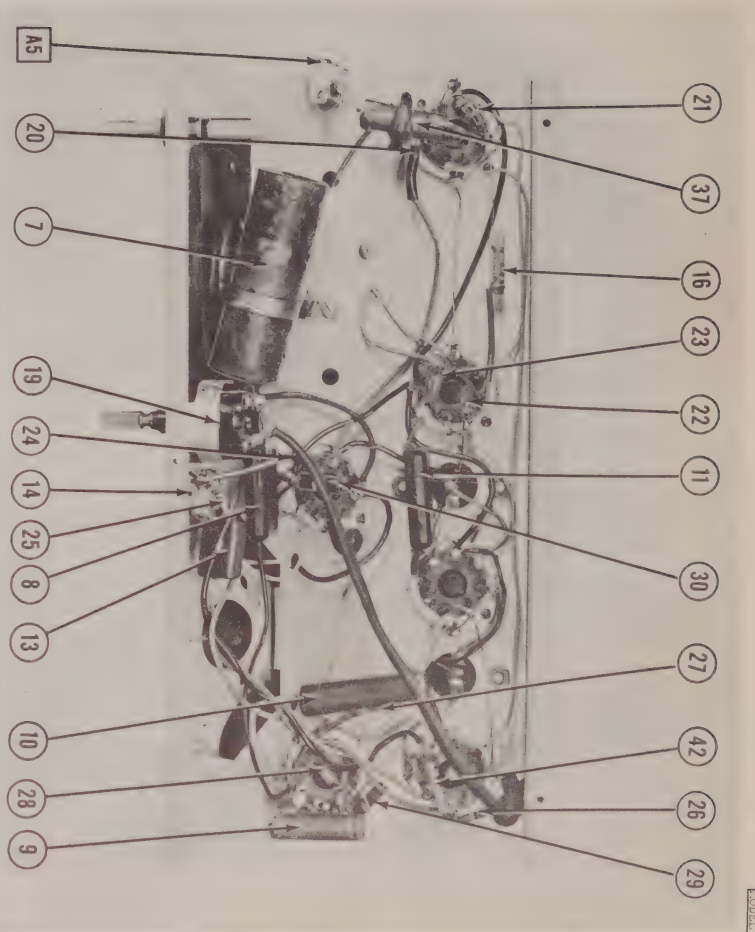
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					ELECTRO PART No.		
40	Bayonet	7.5	0.2	White			Type 51

MISCELLANEOUS

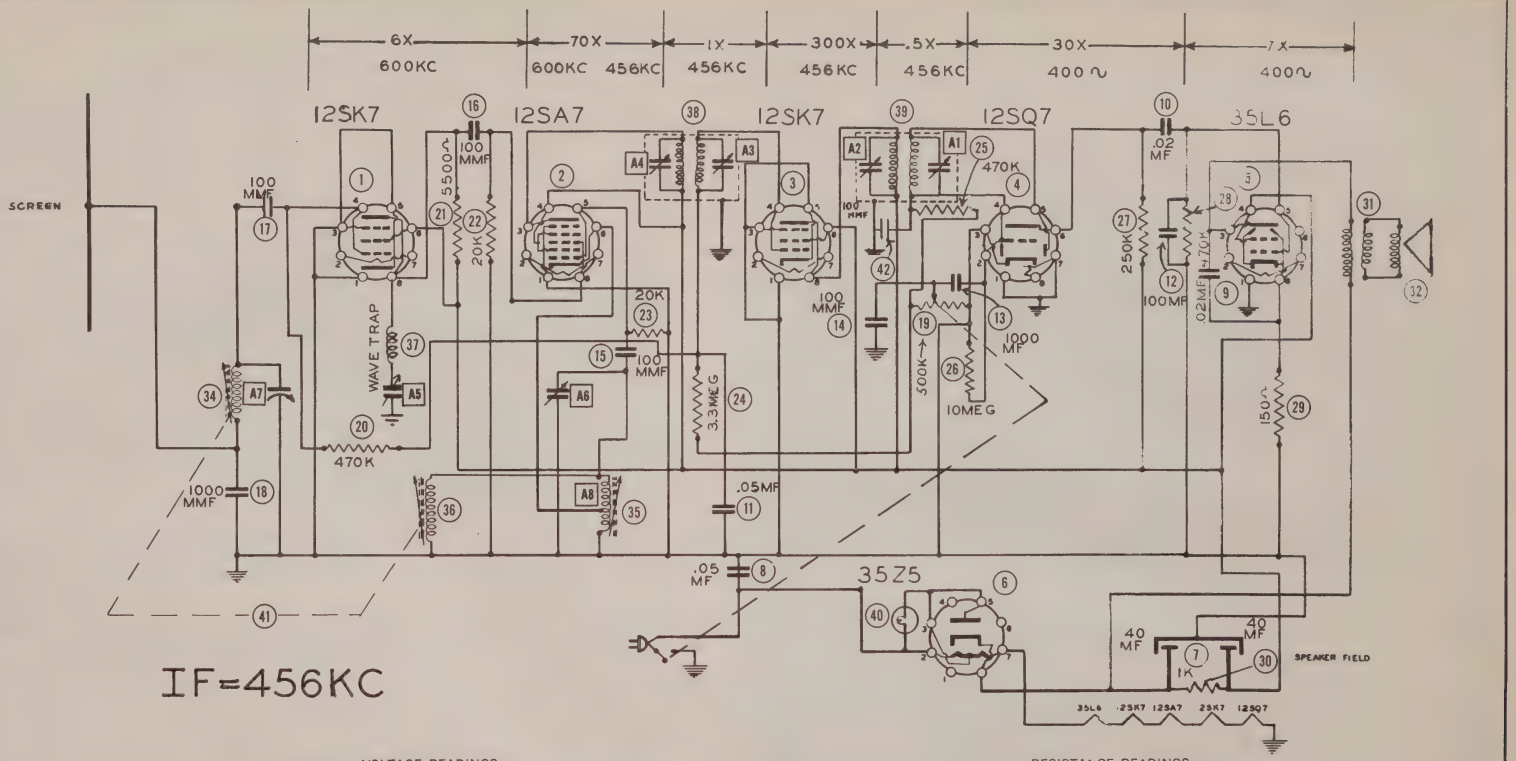
ITEM No.	PART NAME	ELECTRO PART No.	NOTES
41	Tuning Assembly		Slug Tuned



CHASSIS—BOTTOM VIEW



ELECTRO MODEL B20



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7	0V.	25V.AC	0V.	-5 V.DC	0V.	85 V.DC	13V.AC	38 V.DC
2	12SA7	0V.	37V.AC	85V.DC	85V.DC	-3.4V.DC	0V.	25V.AC	-25V.DC
3	12SK7	0V.	49.5V.AC	0V.	-25V.DC	0V.	85 V.DC	37V.AC	85V.DC
4	12SQ7	0V.	-5 V.DC	0V.	-45V.DC	-45V.DC	60 V.DC	13 V.AC	0V.
5	35L6GT	0V.	84V.AC	122V.DC	85 V.DC	0V.	0V.	49.5V.AC	4.9V.DC
6	35Z5GT	0V.	117V.AC	113V.AC	85 V.DC	113V.AC	-25V.DC	84V.AC	125V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7	0Ω	24Ω	0Ω	3.7MEG.	0Ω	25KΩ	12Ω	30KΩ
2	12SA7	0Ω	34Ω	25KΩ	25KΩ	15KΩ	.5Ω	24Ω	16KΩ
3	12SK7	0Ω	44Ω	0Ω	3.2MEG.	0Ω	25KΩ	34Ω	25KΩ
4	12SQ7	0Ω	10MEG.	0Ω	825KΩ	825KΩ	275KΩ	12Ω	0Ω
5	35L6GT	0Ω	73Ω	25KΩ	25KΩ	410KΩ	INF.	44Ω	140Ω
6	35Z5GT	INF.	100Ω	97Ω	25KΩ	97Ω	3.2MEG.	73Ω	25KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

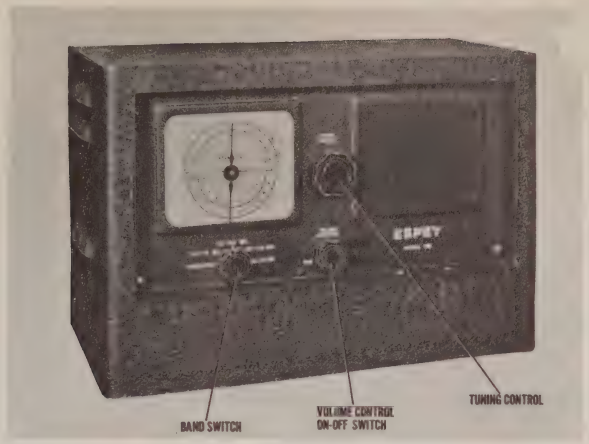
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-9

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at .17 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

ESPEY
MODEL 581



ESPEY MODEL 581

TRADE NAME	Espey, Model 581
MANUFACTURER	Espey Mfg. Co., 528 E. 72nd St., New York,21, N.Y.
TYPE SET	Three Power Multi-Band Superheterodyne Receiver
TUBES (EIGHT)	Types, 1LN5 RF Amp., 1LC6 Converter, 1LN5 1st IF Amp., 1LN5 2nd IF Amp., 1LH4 Det.-AVC-AF, 50A5 (AC Operation), 3LH4 or 3Q5GT (Batt. Operation) Power Output, 35Y4 Rectifier.
POWER SUPPLY	105-125 Volts.AC-DC or 12 Volt "A" Battery & 90 Volt "B" Battery
RATING	.270 Amp. @ 117 Volts AC or 56 MA @ 13 Volts DC and 11.7 MA @ 92 Volts DC
TUNING RANGE—BROADCAST	540-1700KC **SHORT WAVE** 3.85-8.5MC, 8.5-19.5MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer parallel with horizontal line in center of dial. Use battery power when available. When using a-c power use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to center stator of variable. Low side to B-.	455KC	B1	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If a-c power is used without an isolation transformer, reduce dummy ant. to .001 MFD. to reduce hum modulation.
200MMFD	High side to ant. terminal. Low side to chassis.	1600KC	"	1600KC	"	A5	Adjust for maximum output.
200MMFD	"	1400KC	"	Tune for maximum output.	"	A6,A7	" " " "
200MMFD	"	600KC	"	"	"	A8	Rock variable and adjust for maximum output. Repeat last three steps.
400Ω	"	8MC	B2	8MC	"	A9	Adjust for maximum output.
400Ω	"	"	"	Tune for max maximum output.	"	A10,A11	"
400Ω	"	5MC	"	"	"	A12	Rock variable and adjust for maximum output. Repeat adjustments of A9, A10, A11.
400Ω	"	19MC	B3	19MC	"	A13	Adjust for maximum output.
400Ω	"	"	"	Tune for maximum output.	"	A14,A15	" " " "
400Ω	"	10MC	"	"	"	A16	Rock variable and adjust for maximum output. Repeat adjustments of A13, A14, A15.

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: ESPEY PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	1LN5	1LN5	7A0	
2	Converter	1LC6	1LC6	7AK	
3	1st IF Amp.	1LN5	1LN5	7A0	
4	2nd IF Amp.	1LN5	1LN5	7A0	
5	2nd Det.-Audio	1LH4	1LH4	5AG	
6	Power Output	50A5	50A5	6AA	
7	Rectifier	35Y4	35Y4	5AL	
8A	Output (Batt.)	3LH4	3LH4		
8B	Output (Batt.)	3Q5GT	3Q5GT	7AP	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

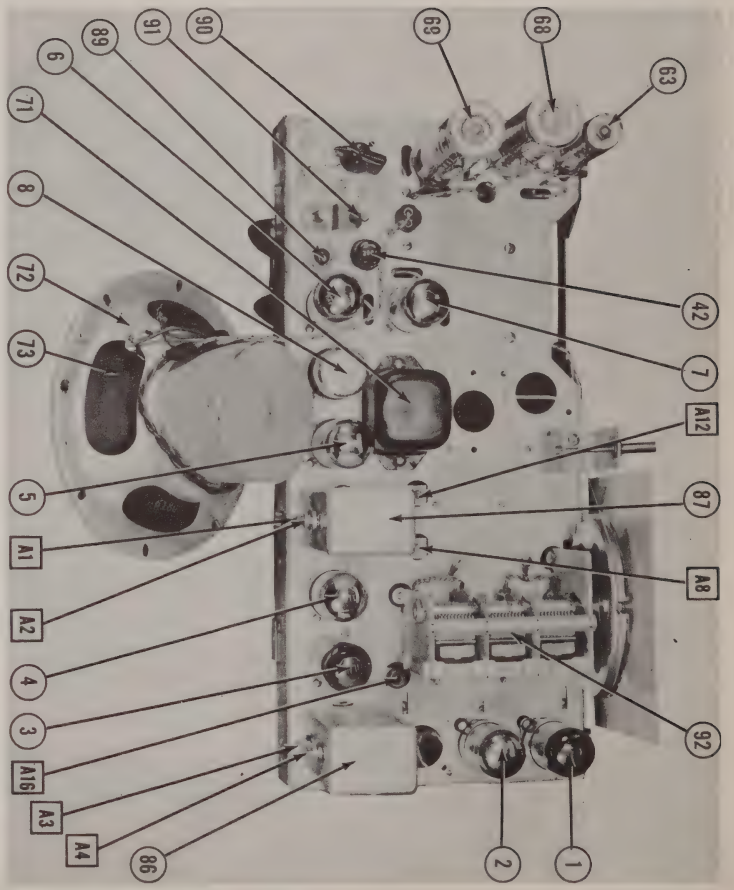
ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ESPEY PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
9	80	150		TA-4401	PRSA150-40-401	BRD4415†	2N511†	DSB-2x40-150†	Filter
10A	40	150		TA-440	PRSA150-40-40	BRD4415	2N511	DSB-2x40-150	" - Red
B	40	150							" - "
11	1000	15		UHC-1015	HCLV15-1000	FA1510	HC1520	DZ-1000-15	Filament Bypass
12	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Output Plate Bypass
13	.006	600		TC-26	684-006	DT6D6	TP409	S-6-006	Audio Coupling
14	.1	400		TC-1	484-.1	DT4P1	TP428	S-4-1	Audio Plate Decoup.
15	.006	600		TC-26	684-006	DT6D6	TP409	S-6-006	Audio Coupling
16	.006	600		TC-26	684-006	DT6D6	TP409	S-6-006	" "
17	.001	400		TC-21	484-001	DT6D1	TP404	S-6-001	2nd IF Plate Decoup.
18	.1	400		TC-1	484-.1	DT4P1	TP428	S-4-1	2nd IF Fil. Bypass
19	.02	200		TC-12	484-02	DT4S2	TP423	S-4-02	1st IF Grid Filter
20	.02	200		TC-12	484-02	LT4S2	TP423	S-4-02	Conv. Screen Bypass
21	.05	400		TC-15	484-05	DT4S5	TP426	S-4-05	Conv. Plate Decoup.
22	.1	400		TC-1	484-.1	DT4P1	TP428	S-4-1	Conv. Fil. Bypass
23	.1	400		TC-1	484-.1	DT4P1	TP428	S-4-1	" " "
24	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
25	.1	400		TC-1	484-.1	DT4P1	TP428	S-4-1	RF Fil. Bypass
26	.01	200		TC-11	484-01	LT4S1	TP421	S-4-01	AVC Filter
27	.006	600		TC-26	684-006	DT6D6	TP409	S-6-006	Ext. Gnd. Isolation
28	.005	400		TC-25	484-005	DT6D5	TP408	S-6-005	Line Filter
29	.1	400		TC-1	484-.1	DT4P1	TP428	S-4-1	RF Bypass Pwr. Supp.*
30	.1	400		TC-1	484-.1	DT4P1	TP428	S-4-1	" " " " *
31	15	300							RF Coupling Cer.
32	100	500		1FM-31	1468-0001	SW5T1	MC235	MO.5-31	Audio Plate Bypass
33	100	500		1FM-31	1468-0001	SW5T1	MC235	MO.5-31	Diode Filter
34	100	500		1FM-31	1468-0001	SW5T1	MC235	MO.5-31	" "
35	220	500		1FM-32	1468-0002	SW5T2	MC237	MO.5-32	IF Coupling
36	2200	500		1FM-22	1467-002	1W5D2	MC457	MW.5-22	Osc. Anode Coupling
37	100	500		1FM-31	1468-0001	SW5T1	MC235	MO.5-31	Osc. Grid Capacitor
38	430	500							Fixed Padder
39	2200	500							" "
40	4300	500							" "

†Parallel for 80 MFD.
*Not used in all models.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ESPEY PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
41A	1 Meg.	1		MR53	D13-137	N-63-2	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 42A per instructions
C	Switch			M27	42	SW-A2	" " " " "

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ESPEY PART No.	IRC PART No.	
43	270Ω	½		BW-½-270	Red-Vi.-Br. Filament String
44	3 Meg.	½		BTS-3.3 Meg.	Or.-Blk.-Grn. AVC Network
45	3.9 Meg.	½		BTS-3.9 Meg.	Or.-White-Grn. AVC Network
46	220KΩ	½		BTS-220K	Red-Red-Yl. Oscillator Grid
47	68KΩ	½		BTS-68K	Blue-Gray-Or. Converter Screen Dropping
48	1000Ω	½		BTS-1000	Br.-Blk.-Red Converter Plate Decoupling
49	3.3 Meg.	½		BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
50	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Anode Load
51	3.3 Meg.	½		BTS-3.3 Meg.	Or.-Or.-Grn. 1st IF Grid
52	22KΩ	½		BTS-22K	Red-Red-Or. 1st IF Plate Load
53	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. 2nd IF Grid
54	1000Ω	½		BTS-1000	Br.-Blk.-Red 2nd IF Plate Decoupling
55	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Diode RF Filter
56	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Diode Load
57	330Ω	½		BW-½-330	Or.-Or.-Br. Filament Shunt
58	12 Meg.	½		BTS-12 Meg.	Br.-Red-Grn. AF Grid
59	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. AF Plate Load
60	100KΩ	½		BTS-100K	Br.-Blk.-Red AF Plate Decoupling
61	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Output Grid
62	100Ω	1		BW-1-100	Br.-Blk.-Br. Output Cathode
63	220Ω	30		EPA-250	Line Dropping-See Note 1
64	500Ω	1		BTA-470	Grn.-Blk.-Br. Filter
65	330Ω	½		BW-½-330	Or.-Or.-Br. Filament Shunt
66	27Ω	½		BW-½-27	Red-Vi.-Blk. Series Filament
67	820Ω	½		BTS-820	Gray-Red-Br. Filament String
68	260Ω	50		EPA-300	Line Dropping-See Note 2
69	260Ω	50		EPA-300	" " " " "
70	40Ω	10		ABA-50	Rectifier Ballast-See Note 3

Note 1 - On IRC replacement set slider @ 220Ω from one end.
Note 2 - Used in 220 volt operation only. On IRC replacement set slider @ 260Ω from one end.
Note 3 - Not used in all models. On IRC replacement set slider @ 40Ω from one end.

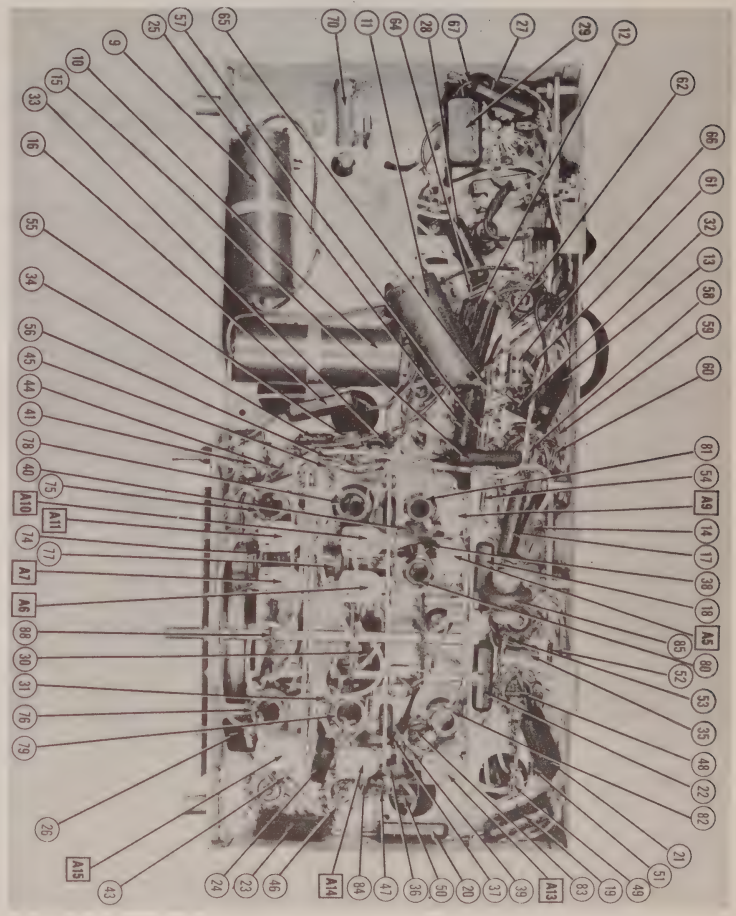
TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ESPEY PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
71	11000Ω tapped @5500Ω	3Ω	300Ω CT	.42					

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ESPEY PART No.	JENSEN PART No.		
72	FIELD PM	VC IMP. 3Ω		ST-11R Mod. P6-T		
73	CONE DIA. 6"	VC DIA. 3/4"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT		

CHASSIS—BOTTOM VIEW



NOTE:(1) READINGS TAKEN IN AC-DC POSITION ON ALL TUBES EXCEPT 3Q5GT WHICH WAS TAKEN IN BATTERY POSITION.
(2) READINGS TAKEN IN STANDARD BROADCAST POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	1LN5	3 V.DC	110 V.DC	110 V.DC	1.4 V.DC	1.4 V.DC	0 V.	0 V.	1.4 V.DC
2	1LC6	4.5 V.DC	110 V.DC	70 V.DC	2.3 V.DC	45 V.DC	2.3 V.DC	0 V.	3 V.DC
3	1LN5	6 V.DC	80 V.DC	110 V.DC	4.5 V.DC	4.5 V.DC	2.4 V.DC	110 V.DC	4.5 V.DC
4	1LN5	7.2 V.DC	110 V.DC	110 V.DC	6 V.DC	6 V.DC	1.8 V.DC	4.5 V.DC	6 V.DC
5	1LH4	0 V.	65 V.DC	105 V.DC	.6 V.DC	110 V.DC	1.2 V.DC	.6 V.DC	1.4 V.DC
6	50A5	0 V.	105 V.DC	110 V.DC	0 V.	0 V.	1.2 V.DC	9.4 V.DC	52 V.AC
7	35Y4	83 V.AC	113 V.AC	0 V.	78 V.AC	0 V.	0 V.	115 V.DC	52 V.AC
8	3Q5GT	3.1 V.DC	11 V.DC	90 V.DC	92 V.DC	1 V.DC	12.5 V.DC	8 V.DC	9.5 V.DC

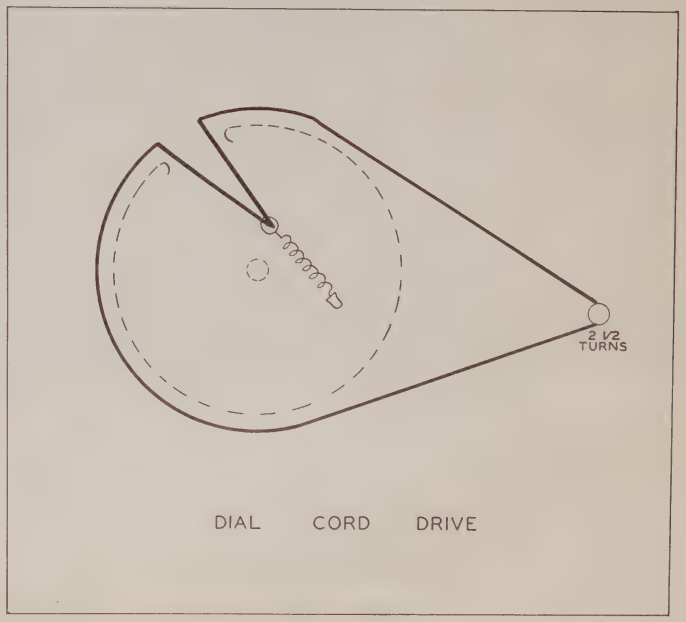
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	1LN5	*	115 KΩ	115 KΩ	*	*	3.1 MEG.	INF.	*
2	1LC5	*	115 KΩ	140 KΩ	210 KΩ	195 KΩ	2.5 MEG.	INF.	*
3	1LN5	*	135 KΩ	115 KΩ	*	*	2.4 MEG.	115 KΩ	*
4	1LN5	*	115 KΩ	115 KΩ	*	*	460 KΩ	25 Ω	*
5	1LH4	0 Ω	700 KΩ	215 KΩ	500 KΩ	115 KΩ	12 MEG.	500 KΩ	*
6	50A5	0 Ω	115 KΩ	115 KΩ	INF.	INF.	410 KΩ	130 Ω	46 Ω
7	35Y4	77 Ω	310 Ω	INF.	72 Ω	INF.	0 Ω	115 KΩ	46 Ω
8	3Q5GT	*	*	225 KΩ	225 KΩ	410 KΩ	*	*	*

* DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Line voltage maintained at 117 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.



PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE (Band)	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA ESPEY PART No.	REPLACEMENT DATA MEISSNER PART No.
74	Ant. Coil 1	18.5Ω	4Ω		
75	" " 2	.5Ω	.2Ω		
76	" " 3	.5Ω	0Ω		
77	RF Coil 1	1Ω	4.5Ω		
78	" " 2	5Ω	.2Ω		
79	" " 3	2Ω	0Ω		
80	Osc. " 1	1.5Ω	3Ω		
81	" " 2	.5Ω	0Ω		
82	" " 3	.5Ω	0Ω		
83	RF Choke		0Ω		
84	" "		4Ω		
85	Filament Ch.		.3Ω		
86	Input IF	6.5Ω	9Ω		
87	Output IF	9.5Ω	9.5Ω		

MISCELLANEOUS

ITEM No.	PART NAME	ESPEY PART No.	NOTES
42	Fuse		1 Ampere
56	Bandswitch		
89	Radio-Phono Sw.		
90	AC-Batt. Switch		
91	115V-230 Volt Sw		
92	3-Gang Var. Cap.		(15-420 MMF-each section)
	"A" Batt.-6V.		(2 Used) Eveready 716 or equiv.
	"B" Batt.-45V.		(2 Used) Eveready 762-S or equiv.

SERVICE NOTES

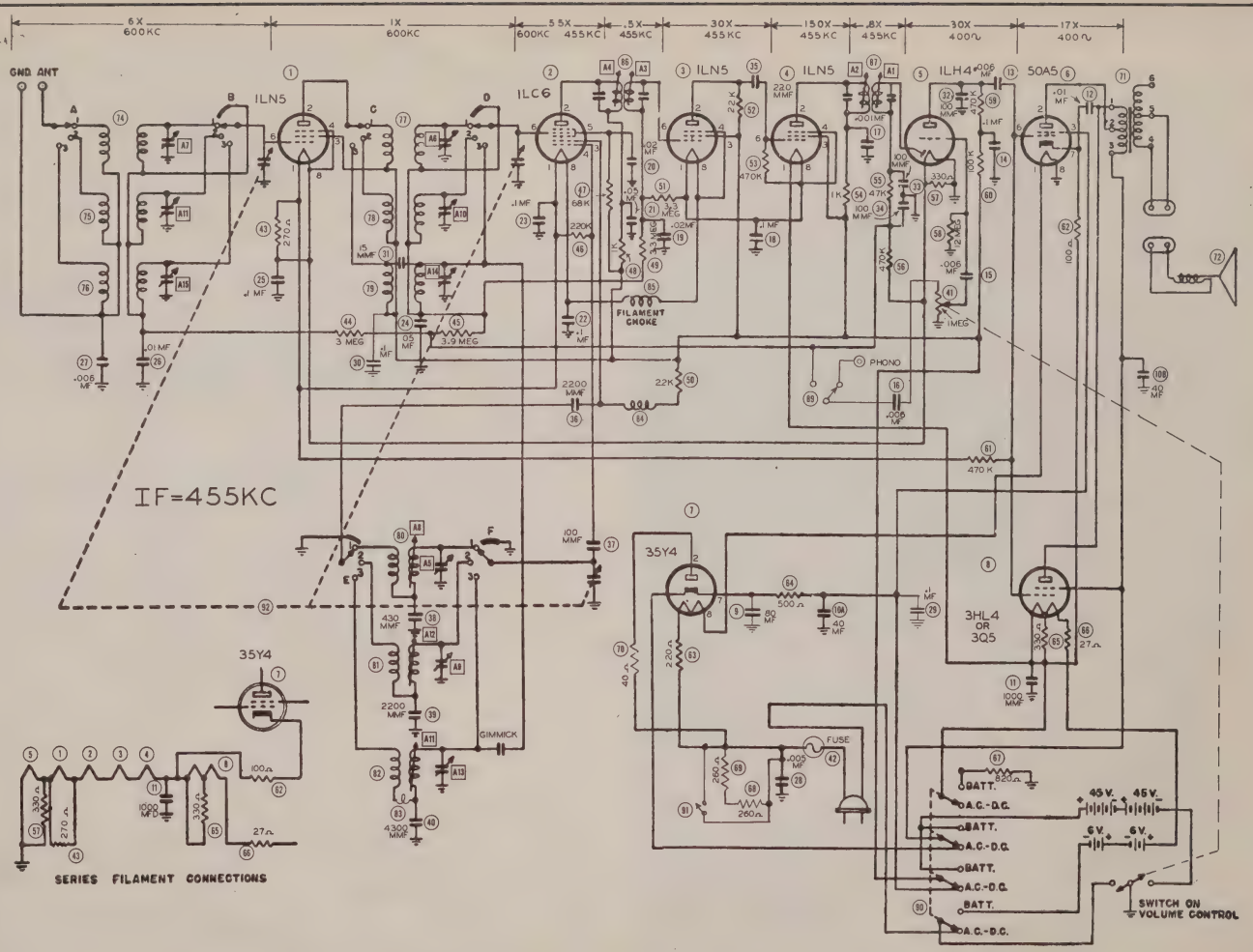
If trouble is experienced with the type 1LN5 tube burning out, the following precautions should be observed:

1 - Check the 50A5 output tube for leakage or abnormal performance.

2 - Check the grid coupling capacitor (Item 13) between the 1LH4 plate and the 50A5 grid for leakage.

3 - Check the cathode resistor, Item 62, of the type 50A5 output tube to make sure that the resistor has not changed appreciably in value (some of these models use a 50-ohm resistor at this point; in these cases replace with 100-ohm resistor).

4 - In AC or DC operation, if voltage on pin #7 of the 3Q5GT output tube still exceeds 7.5 volts DC after the above checks have been made, shunt the filament string with a 1000-ohm resistor or one of suitable value to bring the filament string to the desired voltage.

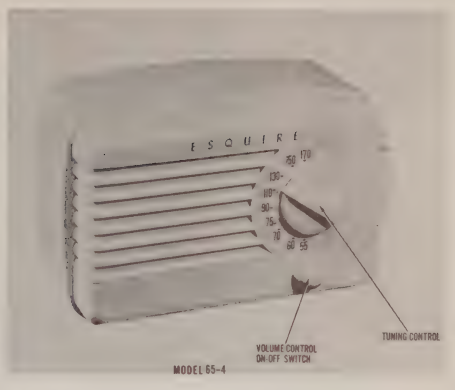


THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 474-10

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by shorting diode load resistor.

ESQUIRE
MODELS 60-10, 65-4

MODEL 60-10



MODEL 65-4

ESQUIRE
MODELS 60-10, 65-4

TRADE NAME	Esquire, Models 60-10, 65-4
SUPPLIER	Esquire Radio Corp., 51 Warren St., New York 7, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver
TUBES (FIVE)	Types, 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7 Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
TUNING RANGE—BROADCAST	540-1725KC RATING .255 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05 MFD.	High side to rear stator of variable. Low side to chassis.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
200MMFD	High side to ext. ant. lead. Low side to chassis.	1725KC	"	"	A5	Adjust for maximum output.
200MMFD	"	1500KC	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: ESQUIRE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7GT	12SA7GT	8AD	
2	IF Amp.	12SK7	12SK7	8N	
3	Det.-AVC-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ESQUIRE PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150	SCE-003	TA-440	PRSA150-40-40	BRD4415	2N511	DSB-2x40-150	Filter - Red
B	40	150							" - Blue
7	.05	600	UCC-045	TC-15	684-05	DT6S5	TP415	S-6-05	Line Filter
8	.05	600	UCC-045	TC-15	684-05	DT6S5	TP415	S-6-05	RF Bypass Pwr. Supp.
9	.02	600	UCC-041	TC-12	684-02	DT6S2	TP412	S-6-02	Output Plate Bypass
10	.01	600	UCC-040	TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
11	.005	600	UCC-039	TC-25	684-005	DT6D5	TP408	S-6-005	" "
12	.05	600	UCC-045	TC-15	684-05	DT6S5	TP415	S-6-05	AVC Filter
13	.005	600	UCC-039	TC-25	684-005	DT6D5	TP408	S-6-05	Ant. Coupling
14	330	500	UCU-1040	1FM-335	1468-00035	5W5T3	MC241	MO.5-33	Audio Plate Bypass
15	330	500	UCU-1040	1FM-335	1468-00035	5W5T3	MC241	MO.5-33	IF Bypass Vol. Cont.
16A	10	500		MS-41	1468-00001	5R5Q1	MCB215	MOS.5-41	Fixed Trimmer †
B	47	500	UCU-1020	1FM-45	1468-00005	5W5Q5	MC225	MO.5-45	Osc. Grid Cap. *

*Used in Model 65-4
†Used in Model 60-10

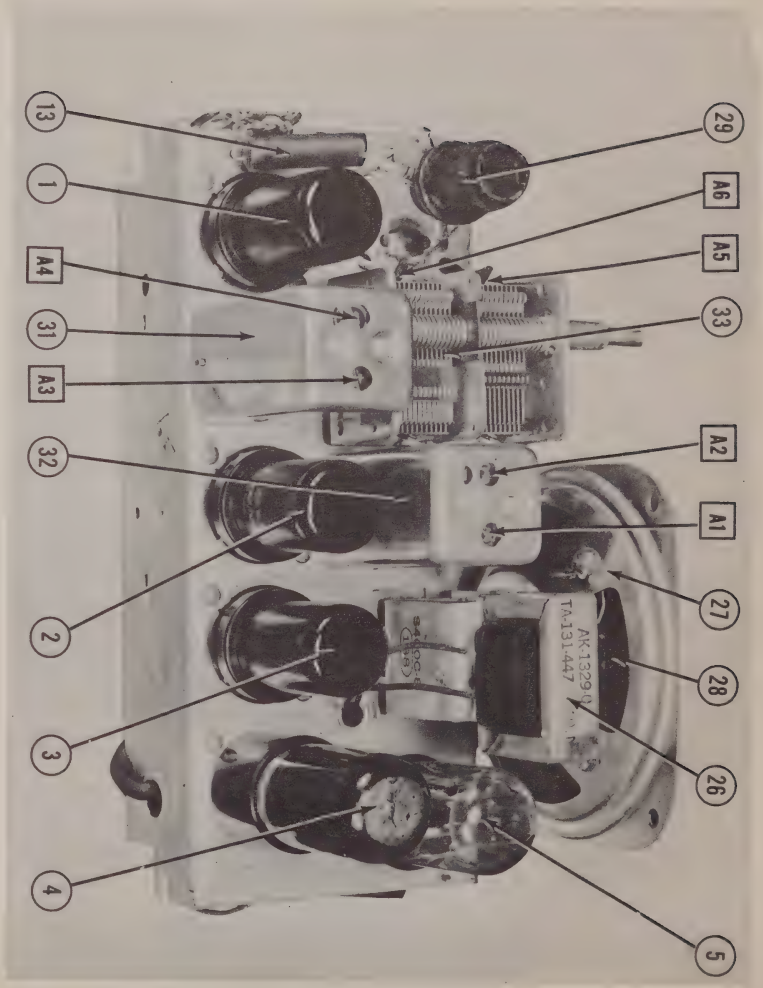
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ESQUIRE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17A	500KΩ	1	SRC-004	MR48	D13-133	M-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 17A per instructions
C	Switch		" "	M26	41	M26	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ESQUIRE PART No.	IRC PART No.	IDENTIFICATION CODES
18	22KΩ	½	URD-081	BTS-22K	Red-Red-Or. Oscillator Grid
19	2.2 Meg.	½	URD-129	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
20	10 Meg.	½	URD-145	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
21	220KΩ	½	URD-105	BTS-220K	Red-Red-Yl. AF Plate Load
22	470KΩ	½	URD-113	BTS-470K	Yl.-Vi.-Yl. Output Grid
23	150Ω	½	URD-029	BW-½-150	Br.-Grn.-Br. Output Cathode
24	1500Ω	2	URF-053	BT-2-1500	Br.-Grn.-Red Filter
25	18Ω	½	URE-007	BW-½-18	Br.-Gray-Blk. Rectifier Ballast

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ESQUIRE PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
26	4000Ω	3.8Ω	170Ω	.5Ω		A-3876§	T22S46§		§Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ESQUIRE PART No.	JENSEN PART No.		
27	FIELD P.M.	VC IMP. 3.8Ω	S4000-8	ST-113† Mod. P4-X		†Fabricate new mounting bracket.
28	CONE DIA. 4"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

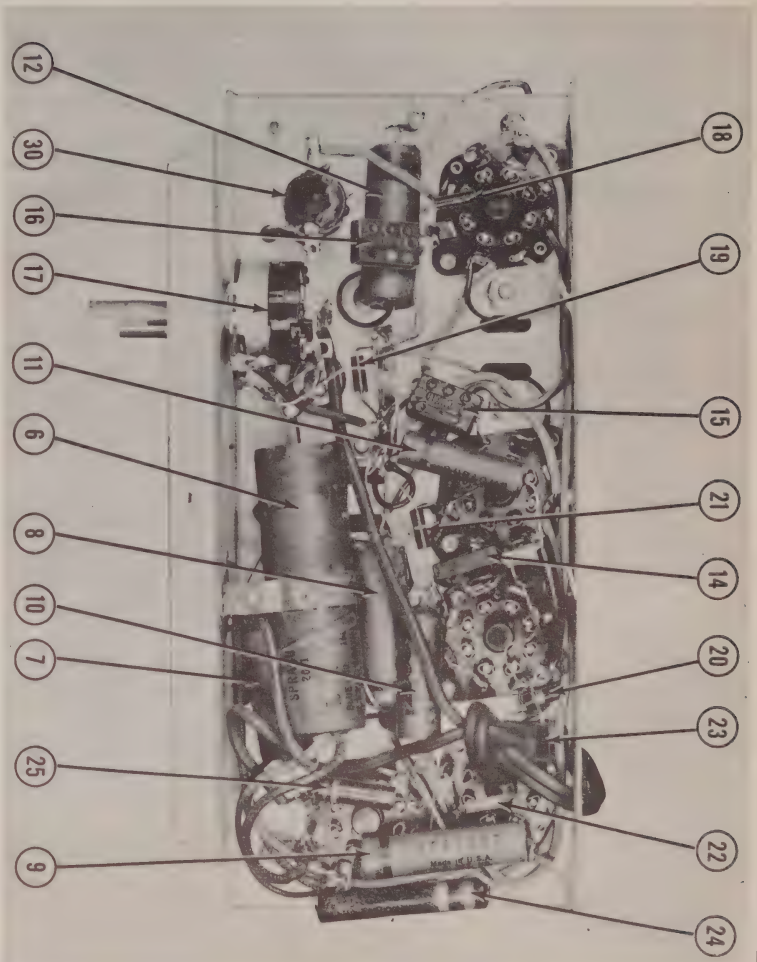
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	ESQUIRE PART No.	MEISSNER PART No.	
29	Ant. Coil	52Ω	4.3Ω	SLA-001	14-1026	
30	Osc. Coil	.7Ω	7Ω		14-1040	Add 50MM from grid to high side tuning cap.
31	Input IF	18.5Ω	20Ω	STL-003	16-6658	
32	Output IF	30Ω	31.5Ω	STL-004	16-6660	

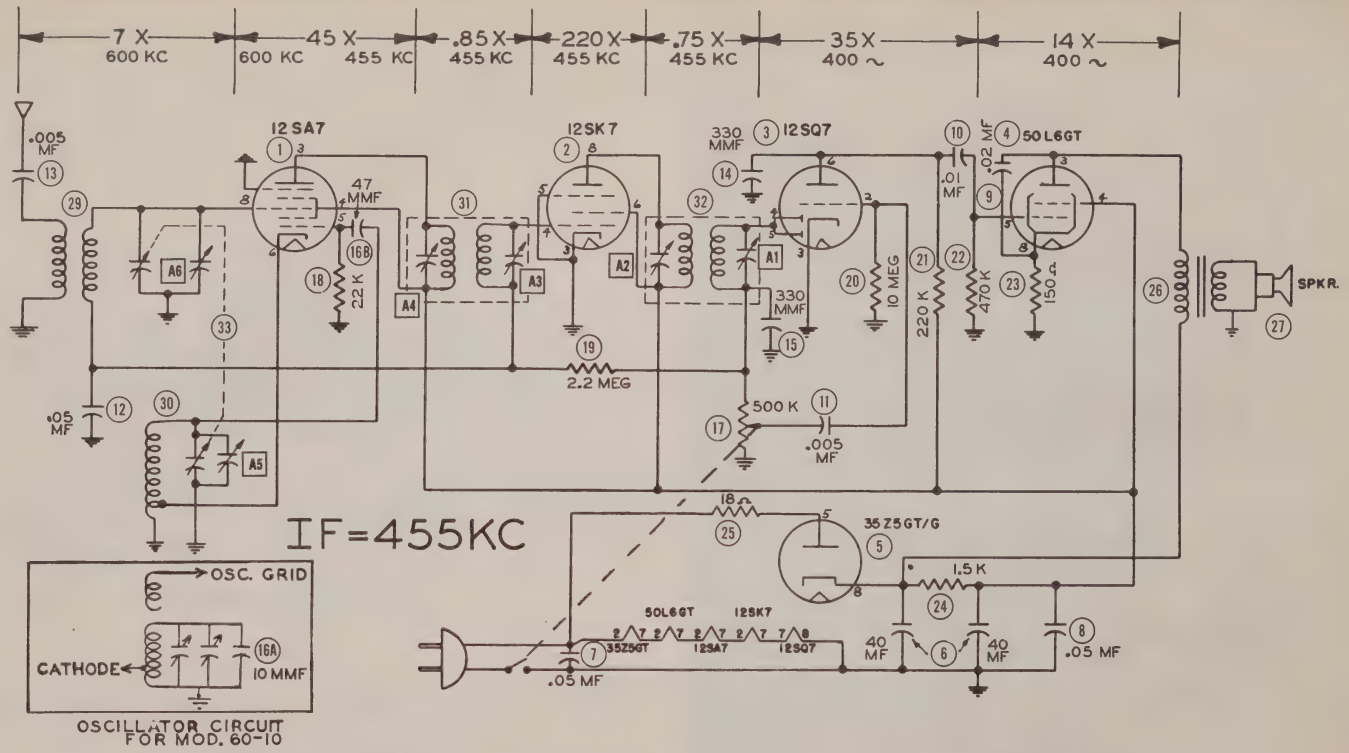
MISCELLANEOUS

ITEM No.	PART NAME	ESQUIRE PART No.	NOTES
33	2 Gang Var. Cap	SCT-003	*(33-467 MMF, 21-187 MMF)

CHASSIS—BOTTOM VIEW



ESQUIRE MODELS
60-10, 65-4



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0V.	23V.AC	90 V.DC	90 V.DC	-1.75 V.DC	0V.	35 V.AC	-3 V.DC
2	12SK7	0V.	23V.AC	0V.	-3 V.DC	0V.	90 V.DC	12 V.AC	90 V.DC
3	12SQ7	0V.	-5 V.DC	0V.	-3 V.DC	-3 V.DC	57 V.DC	12 V.AC	0V.
4	50L6GT	0V.	85 V.AC	127 V.DC	90 V.DC	0V.	0V.	35 V.AC	6.4 V.DC
5	35Z5GT	0V.	117 V.AC	109 V.AC	0V.	115 V.AC	0V.	85 V.AC	132 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0Ω	22Ω	70KΩ	70KΩ	16KΩ	.5Ω	33Ω	2.5MEG.
2	12SK7	0Ω	22Ω	0Ω	2.5MEG.	0Ω	70KΩ	11Ω	70KΩ
3	12SQ7	0Ω	10 MEG.	0Ω	420KΩ	420KΩ	540KΩ	1Ω	0Ω
4	50L6GT	0Ω	77Ω	70KΩ	70KΩ	375KΩ	375KΩ	33Ω	160Ω
5	35Z5GT	0Ω	105Ω	100Ω	INF.	125Ω	INF.	77Ω	70KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

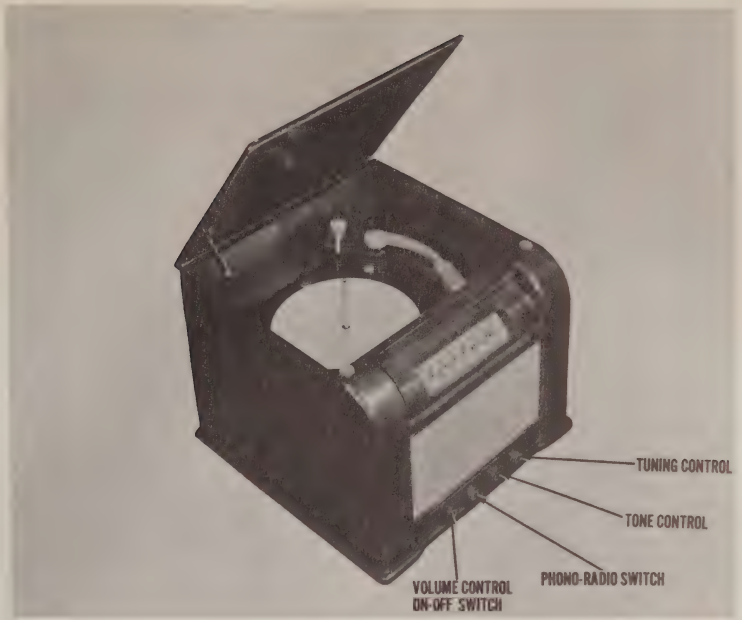
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-11

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

FADA
MODEL 602



FADA
MODEL 602

FADA MODEL 602

TRADE NAME	Fada, Model 602
MANUFACTURER	Fada Radio & Electric Co., Inc., 30-20 Thomson Ave., Long Island City, N.Y.
TYPE SET	AC Operated Combination Phono-Radio Superheterodyne Receiver-Self Contained Loop Antenna
TUBES (SIX)	Types, 12BA6 RF Amp., 12SA7 Converter, 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, [illegible] Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC
TUNING RANGE—BROADCAST	528-1680KC RATING .255 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not, connect a capacitor in series with [illegible] signal generator and chassis. Volume control should be at maximum volume. Output of signal generator should be no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to rear stator of variable. Low side to chassis.	456KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
.1 MFD.	"	1360KC	"	"	A5	"
	Loop	1500KC	Tune for maximum output.	"	A6	Fashion loop of several turns of wire. Radiate signal into loop of set. Adjust for maximum output.

DISASSEMBLY INSTRUCTIONS

1. Remove four push-on type knobs from front of cabinet.
2. Remove four bolts holding chassis mounting board. Remove chassis and chassis mounting board.
3. Unsolder phono motor leads.
4. Unsolder phono pickup lead and capacitor from shield. Capacitor is connected between two slides.
5. Remove self-tapping screws holding chassis on chassis mounting board. Remove chassis.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: FADA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12BA6	12BA6	7CC	
2	Converter	12SA7GT	12SA7GT	6R	
3	IF Amp.	12SK7	12SK7	6N	
4	Det.-AVC-AF	12SQ7	12SQ7	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: FADA PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	30	150	22.4	TA-430	RSA150-40-40	EZ42215	FP357	DSB-403020-150	Filter - Red
B	40	150							" - Blue
C	20	150		UT-201	PRS150-20				" - Yellow
8	.05	400	12.12	TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
9	.03	400	12.9	TC-13	484-03	DT4S3	TP424	S-4-03	Output Plate Bypass
10	.005	600	12.4	TC-25	684-005	DT6D5	TP408	S-6-005	Tone Compensation
11	.01	400	12.6	TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
12	.005	600	12.4	TC-25	684-005	DT6D5	TP408	S-6-005	" "
13	.005	600	12.4	TC-25	684-005	DT6D5	TP408	S-6-005	Phono Tone Comp.
14	.05	400	12.11	TC-15	484-05	DT4S5	TP426	S-4-05	IF Screen Bypass
15	.05	400	12.11	TC-15	484-05	DT4S5	TP426	S-4-05	Conv. Screen Bypass
16	.05	400	12.11	TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
17	.05	400	12.11	TC-15	484-05	DT4S5	TP426	S-4-05	Shield Isolation
18	250	500	17.8	1FM-325	1468-00025	5W5T25	MC240	MO.5-325	Audio Plate Bypass
19	220	500	17.19	1FM-32	1468-0002	5W5T2	MC237	MO.5-32	IF Bypass Vol. Cont
20	100	500	17.5	1FM-31	1468-0001	5W5T1	MC235	MO.5-31	Osc. Grid Capacitor
21	100	500	17.5	1FM-31	1468-0001	5W5T1	MC235	MO.5-31	RF Coupling
22	10	500		MS-41	1468-00001	5W5Q1	MC215	MO.5-41	" "
51	.05	400	12.11	TC-15	484-05	DT4S5	TP426	S-4-05	IF Cathode Bypass

CONTROLS

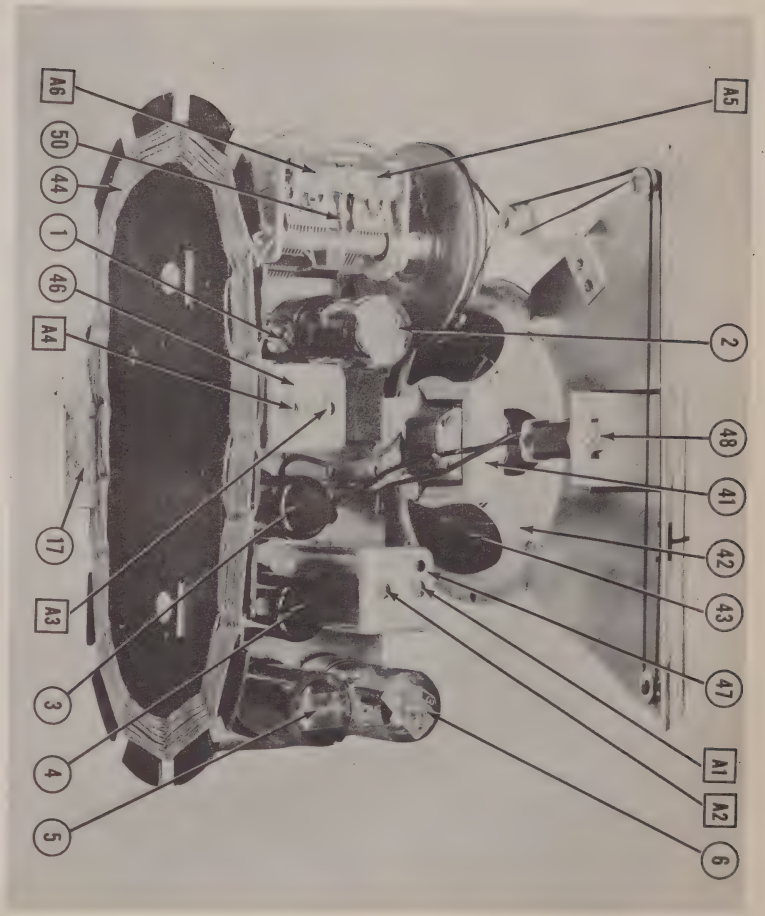
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: FADA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
23A	500KΩ	1	52.2A	MR48	D13-133	M-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 23A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "
24A	500KΩ	1	57.2	MR48	D13-133	M-60-Z	Tone Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 24A per instructions

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: FADA PART No.	IRC PART No.	IDENTIFICATION CODES
25	75Ω	½		BW-½-82	Vi.-Grn.-Blk. RF Cathode
26	2200Ω	½		BTS-2200	Red-Red-Red RF Plate Load
27	6800Ω	½		BTS-6800	Blue-Gray-Red Converter Grid
28	1 Meg.	½	32.23	BTS-1 Meg.	Br.-Blk.-Grn. RF Grid-See Note 1
29	22KΩ	½	32.13	BTS-22K	Red-Red-Or. Oscillator Grid
30	220Ω	½	32.5	BW-½-220	Red-Red-Br. IF Cathode-See Note 1
31	1 Meg.	½	32.23	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
32	3.9 Meg.	½	32.26	BTS-3.9 Meg.	Or.-White-Grn. AF Grid
33	220KΩ	½	32.18	BTS-220K	Red-Red-Yl. AF Plate Load
34	470KΩ	½	32.20	BTS-470K	Yl.-Vi.-Yl. Output Grid
35	130Ω	½	32.3	BW-½-120	Br.-Or.-Br. Output Cathode
36	220KΩ	½	32.18	BTS-220K	Red-Red-Yl. Phono Shunt
37	910Ω	1	32.28	BTA-1000	White-Br.-Br. Filter
38	200Ω	1	32.27	BTA-220	Red-Blk.-Br. Filter
39	30Ω	1	117.1	BW-1-33	Or.-Blk.-Blk. Line Dropping
40	680Ω	½		BTS-680	Blue-Gray-Br. IF Decoupling-See Note 1

Note 1: Not used in all models.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		FADA PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
41	18500	2.9Ω	190Ω	.7Ω	42.1	A-3676*	T22S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			FADA PART No.	JENSEN PART No.		
42	FIELD PM	VC IMP. 2.9Ω	107.9	S'T-105t Mod. P5-X		†Fabricate new mounting bracket.
43	CONE DIA. 4-3/4"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

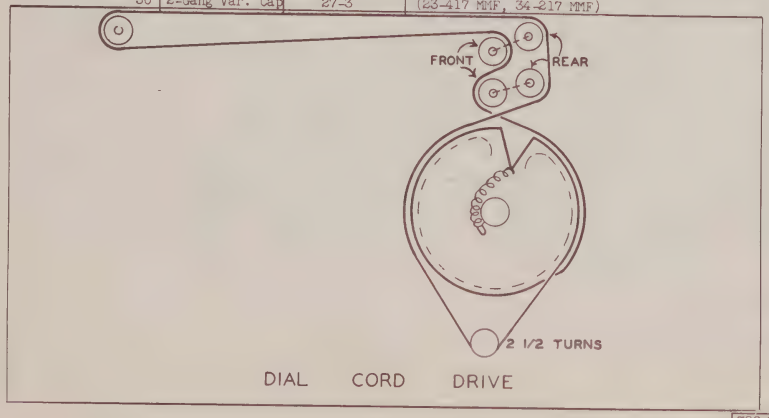
ITEM No.	USE	DC RES.		REPLACEMENT DATA	
		PRI.	SEC.	FADA PART No.	MEISSNER PART No.
44	Loop Ant.		1.2Ω	37.9	
45	Osc. Coil	.5Ω	5Ω	37.1	14-1040
46	Input IF	20Ω	20Ω	37.3	16-6658
47	Output IF	26Ω	25Ω	37.33	16-6660

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					FADA PART No.		
48	Bayonet	6-8	0.15	Brown			Type 47

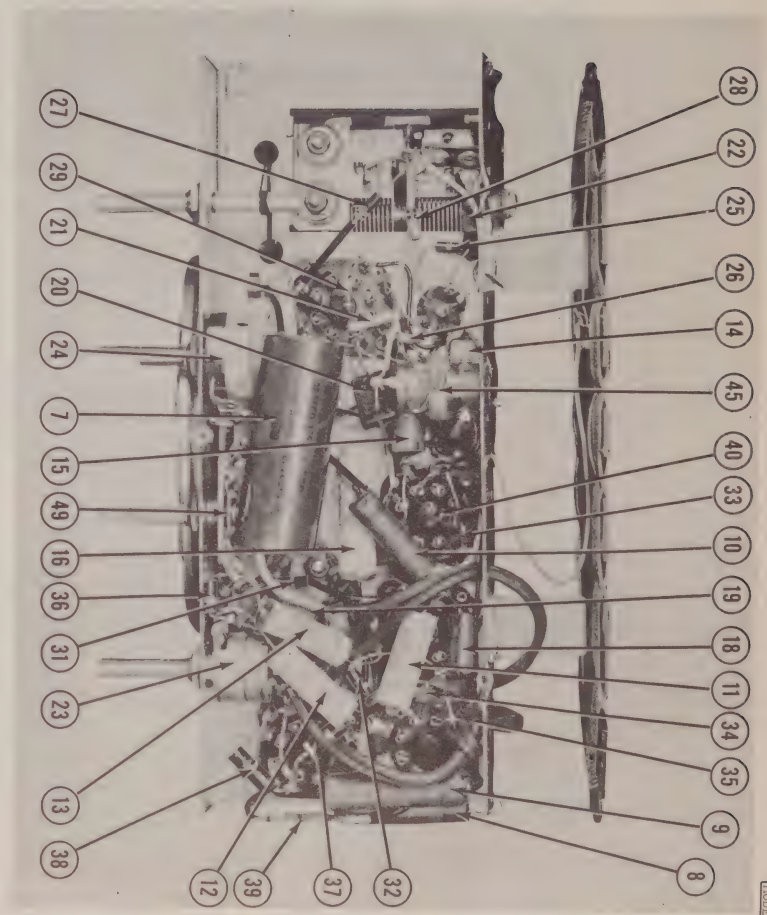
MISCELLANEOUS

ITEM No.	PART NAME	FADA PART No.	NOTES
49	Switch		Radio-Phono
50	2-Gang Var. Cap	27-3	(23-417 MMF, 34-217 MMF)

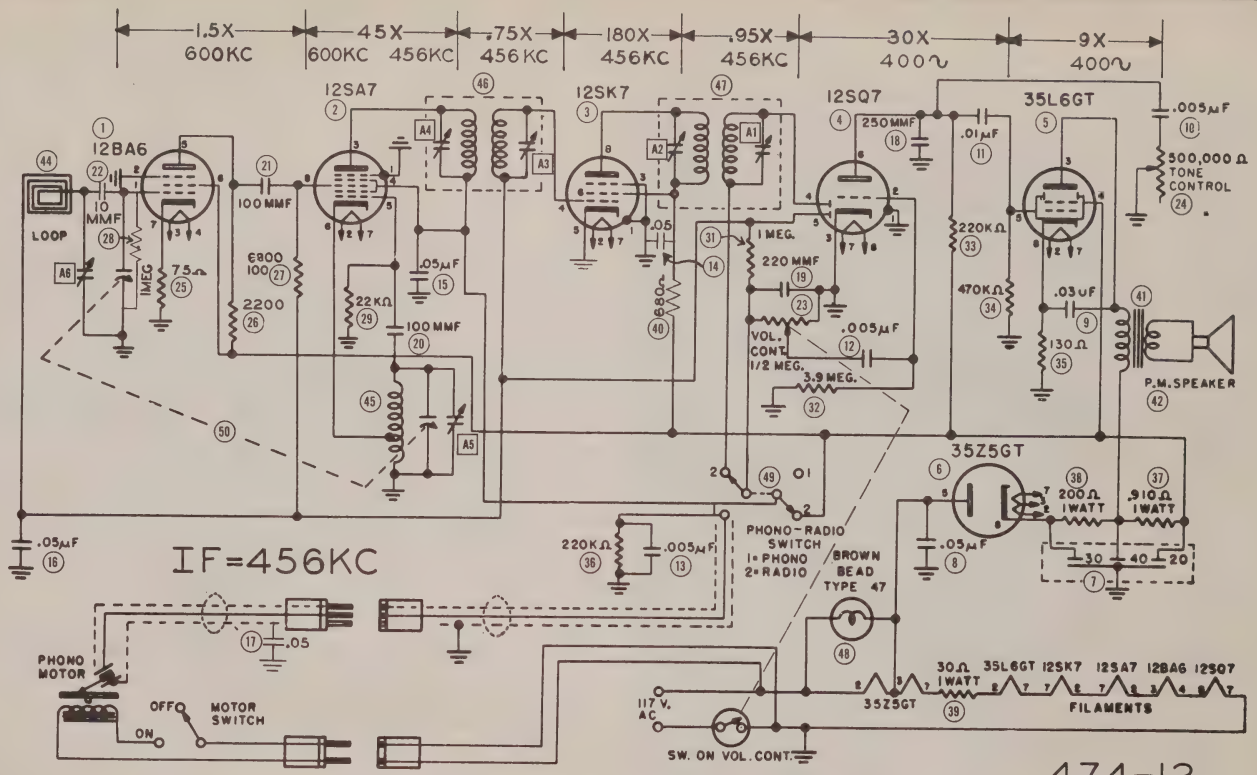


FADA MODEL 602

CHASSIS—BOTTOM VIEW



FADA MODEL 602



NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN RADIO POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12BA6	-1 V.DC	0 V.	12 V.AC	24 V.AC	65 V.DC	80 V.DC	.8 V.DC	
2	12SA7	0 V.	24 V.AC	80 V.DC	80 V.DC	-6.5 V.DC	0 V.	36 V.AC	-35 V.DC
3	12SK7	0 V.	36 V.AC	0 V.	-4 V.DC	0 V.	72 V.DC	48 V.AC	72 V.DC
4	12SQ7	0 V.	-45 V.DC	0 V.	-3 V.DC	-4 V.DC	52 V.DC	0 V.	12 V.AC
5	35L6GT	0 V.	84 V.AC	107 V.DC	80 V.DC	0 V.	0 V.	48 V.AC	4.3 V.DC
6	35Z5GT	112 V.DC	117 V.AC	113 V.AC	117 V.AC	113 V.AC	112 V.DC	88 V.AC	123 V.DC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12BA6	2.4 MEG.	0Ω	12Ω	23Ω	62 KΩ	60 KΩ	70Ω	
2	12SA7	0Ω	23Ω	60 KΩ	60 KΩ	19 KΩ	.7Ω	33Ω	1.4 MEG.
3	12SK7	0Ω	33Ω	0Ω	1.4 MEG.	0Ω	60 KΩ	46Ω	60 KΩ
4	12SQ7	0Ω	4 MEG.	0Ω	420 KΩ	1.4 MEG.	280 KΩ	0Ω	12Ω
5	35L6GT	INF.	77Ω	60 KΩ	60 KΩ	370 KΩ	INF.	46Ω	130Ω
6	35Z5GT	60 KΩ	125Ω	122Ω	125Ω	122Ω	600 KΩ	100Ω	60 KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RME MODEL 84

TRADE NAME	RME Model 84
MANUFACTURER	Radio Mfg. Engineers, Inc., Peoria (6), Ill.
TYPE SET	AC Operated Multiband Communications Superheterodyne Receiver
TUBES (EIGHT)	Types, 7B7 RF Amp., 7S7 Converter, 7B7 1st IF Amp., 7B7 2nd IF Amp., 7K7 Det.-AVC-AF, 7K7 N.L.-BFO, 6G6G Power Output, 5Y3G Rectifier.
POWER SUPPLY RATING	110-120 Volts AC or 6V "A" Battery and 135V "B" Battery tapped at 90 Volts .620 Amps. @ 117V AC or 1.5 Amps. @ 6.V DC and 32MA @ 135V DC
TUNING RANGE—	BAND 1, 540-1650KC; BAND 2, 1.65-5MC: BAND 3, 5-15MC; BAND 4, 15-44MC.

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

"CW", "TR", "PH" switch should be on "CW", Noise Limiter off. Audio gain should be at maximum. RF Gain should be at maximum and output of signal generator no higher than necessary to obtain an output reading. On Bands III & IV it may be necessary to reduce RF Gain in order to prevent overloading by signal generator.

BFO Tube 7K7 (#6) should be removed on all adjustments except when adjusting A7 for zero beat.

On all bands oscillator should be working above the incoming signal. To check this, leave receiver at frequency and tune signal generator 910KC above the alignment frequency. The image signal should then be heard. If this image signal is not heard re-adjust oscillator and repeat the remaining adjustments for that band. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to stator of tuning cap. Low side to chassis.	455KC	I	Tuning cap. closed.	Across voice coil	A1,A2, A3,A4, A5,A6.	Adjust for maximum output.
.1 MFD.	"	"	"	"	"	A7	Turn B.O. pitch control vertical. Adjust for zero beat.
300Ω	High side to ext. ant. terminal board connection "A". Low side to "G" connection.	600KC	"	600KC	"	A8	Adjust for maximum output.
300Ω	"	1400KC	"	1400KC	"	A9	Adjust for maximum output. Repeat last two steps until no further improvement can be made.
300Ω	"	600KC	"	Tune for maximum output.	"	A10,A11	Adjust for maximum output.
300Ω	"	1400KC	"	"	"	A12,A13	Adjust for maximum output. Repeat last two steps until no further increase can be obtained.
300Ω	"	1.9MC	II	1.9MC	"	A14	Adjust for maximum output.
300Ω	"	5MC	"	5MC	"	A15	Adjust for maximum output. Repeat last two steps until no further improvement can be made.
300Ω	"	1.9MC	"	Tune for maximum output.	"	A16,A17	Adjust for maximum output.
300Ω	"	5MC	"	"	"	A18,A19	" " " " Repeat last two steps until no further increase can be obtained.
300Ω	"	10MC	III	10MC	"	A20	Adjust for maximum output.
300Ω	"	"	"	Tune for maximum output.	"	A21,A22	Rock variable and adjust for maximum output.
300Ω	"	30MC	IV	30MC	"	A23	Adjust for maximum output.
300Ω	"	"	"	Tune for maximum output.	"	A24,A25	Rock variable and adjust for maximum output.
THE FOLLOWING ADJUSTMENT SHOULD ONLY BE MADE WHEN ABSOLUTELY NECESSARY.							
300Ω	High side to ext. ant. terminal board connection "A". Low side to "G" connection.	15MC	IV	15MC	Across voice coil	A26	Adjust for maximum output. Repeat last three steps until no further improvement can be made.

RME
MODEL 84

RME
MODEL 84

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: RME PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	7B7	7B7	8V	
2	Converter	7S7	7S7	8BL	
3	1st IF Amp.	7B7	7B7	8V	
4	2nd IF Amp.	7B7	7B7	8V	
5	Det.-AVC-AF	7K7	7K7	8BF	
6	N.L. BFO	7K7	7K7	8BF	
7	Power Output	6G6G	6G6G	7S	
8	Rect fier	5Y3G	5Y3G	5T	

CAPACITORS

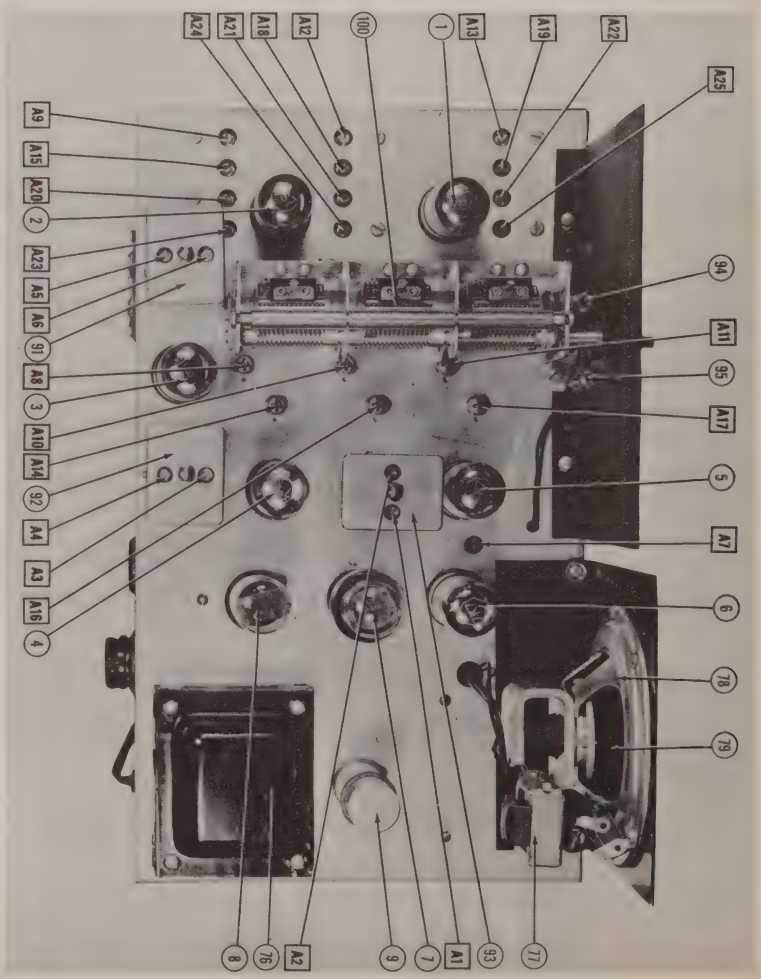
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: RME PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
9A	15	450		EL-344	AF44J	UP6CJ47	FP390	DY-3x15-450	■ Filter
B	10	450							▲ "
C	15	450			PRS450-10				▲ "
10	20	25		TA-25	PRS25-25	BR202A	TC26	M-25-25	Output Cath. Bypass
11	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Tone Compensation
12	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Output Plate Bypass
13	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
14	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	BFO Plate Bypass
15	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
16	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	N.L. Bias Filter
17	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	AVC Filter
18	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	2nd IF Screen Bypass
19	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	2nd IF Cath. Bypass
20	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	1st IF Screen Bypass
21	.1	600		TC-1	684-.1	DT6P1	TP418	S-6-1	1st IF Cath. Bypass
22	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	AVC Filter
23	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Conv. Plate Decoup.
24	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Conv. Screen Bypass
25	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Conv. Cath. Bypass
26	.015	600		TC-11	684-015	DT6S15	TP411	S-6-01	Fixed Padder
27	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Osc. Plate Decoupling
28	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	RF Plate Decoupling
29	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	RF Screen Bypass
30	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	RF Cath. Bypass
31	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	BFO Fixed Trimmer
32	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	BFO Grid Capacitor
33	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	Audio Grid Capacitor
34	50	500		1FM-45	1469-00005	5W5Q5	MC225	M0.5-45	Diode
35	5								BFO Coupling Cer.
36	500	500		1FM-35	1468-0005	5W5T5	MC245	M0.5-35	Fixed Padder
37	150	500		1FM-315	1468-00015	5W5T15	MC236	M0.5-315	" "
38	4000	300		1FM-24	1467-004	1D5D4	MC463	MW.5-24	" "
39	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	RF Coupling
40	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	" "
41	1000	500		1FM-21	1467-001	1W5D1	MC255	MW.5-21	Osc. Plate Decoupling
42	50	500		1FM-45	1468-00005	5W5Q5	MC225	M0.5-45	Osc. Grid Capacitor

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RME PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
43A	1 Meg.	1		MR53	D13-137	M-63-Z	Tone Control
B	Shaft			Not Req.	A	Not Req.	Attach to 43A per instructions
C	Switch			M27	42	SW-A2	" " " "
44A	30KΩ	1		MR28	D14-120		RF Gain Control
B	Shaft			Not Req.	A		Attach to 44A per instructions
45A	500KΩ	1		MR48	D13-133	M-60-Z	Audio Gain Control-Late Production
B	Shaft			Not Req.	A	Not Req.	Attach to 45A per instructions
45A	250KΩ	1		MR44	D13-130	M-64-Z	Audio Gain Control-Early Production
B	Shaft			Not Req.	A	Not Req.	Attach to 45A per instructions

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	RME PART No.	IRC PART No.	
46	220KΩ	½		BTS-220K	Red-Red-Yl. RF Grid
47	15Ω	½		BW-½-150	Br.-Grn.-Br. RF Cathode
48	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Bleeder
49	4700Ω	½		BTS-4700	Yl.-Vi.-Red RF Screen Dropping
50	22KΩ	½		BTS-22K	Red-Red-Or. RF Plate Load
51	4700Ω	½		BTS-4700	Yl.-Vi.-Red RF Plate Decoupling
52	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Plate Decoupling
53	220Ω	½		BW-½-220	Red-Red-Br. Converter Cathode
54	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Oscillator Grid
55	220KΩ	½		BTS-220K	Red-Red-Yl. Converter Screen Dropping
56	4700Ω	½		BTS-4700	Yl.-Vi.-Red Converter Plate Decoupling-See Note 1
57	220KΩ	½		BTS-220K	Red-Red-Yl. AVC Network
58	4700Ω	½		BTS-4700	Yl.-Vi.-Red 1st IF Screen Dropping
59	470Ω	½		BTS-470	Yl.-Vi.-Br. 2nd IF Cathode
60	100KΩ	½		BTS-100K	Br.-Blk.-Yl. BFO Plate Dropping
61	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
62	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Noise Limiter Network
63	680KΩ	½		BTS-680K	Blue-Gray-Yl. Noise Limiter Network
64	47KΩ	½		BTS-47K	Yl.-Vi.-Or. BFO Grid
65	220KΩ	½		BTS-220K	Red-Red-Yl. Diode Load
66	220KΩ	½		BTS-220K	Red-Red-Yl. Diode Load
67	22KΩ	½		BTS-22K	Red-Red-Or. AF Grid
68	220KΩ	½		BTS-220K	Red-Red-Yl. Output Grid
69	500Ω	½		BTS-470	Grn.-Blk.-Br. Output Cathode
70	12Ω	½		BW-½-12	Br.-Red-Blk. Headphone Shunt-See Note 2
71	22KΩ	½		BTS-22K	Red-Red-Or. AF Plate Decoupling
72	100KΩ	½		BTS-100K	Br.-Blk.-Yl. AF Plate Load
73A	4500Ω	10		ABA-10,000	Voltage Dropping-See Note 3
B	5500Ω				Bleeder
74	820Ω	½		BTS-820	Gray-Red-Br. AF Cathode

Note 1 - Some models use 22KΩ in this application
Note 2 - Some models use 33Ω in this application
Note 3 - On IRC replacement set slider @ 4500Ω from one end.

FILTER CHOKE

ITEM NO.	RATINGS			REPLACEMENT DATA			INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000~)	RME PART NO.	STANCOR PART NO.	THORDARSON PART NO.	
75	.084A	570Ω	13 Henries		C-1709	T20C53	

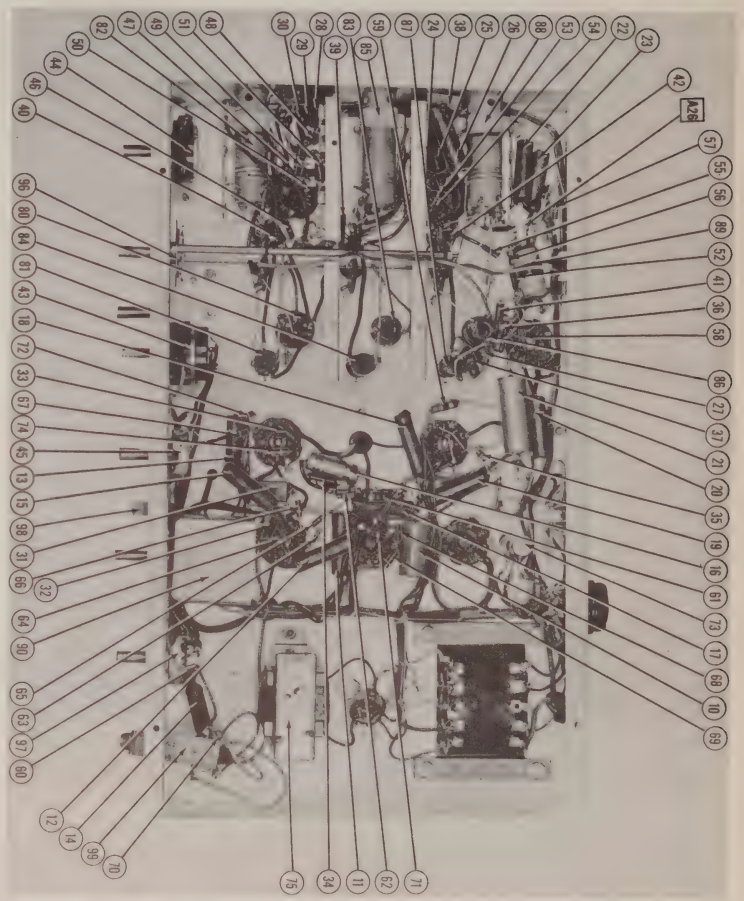
TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	RME PART No.	STANCOR PART No.	THORDARSON PART No.	
76	117V AC @ .62A	680V CT @ .084A	5.2V AC @ 1.6A	6.5V AC @ 1.7A		P-6013	T22R05	

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		RME PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
77	7200Ω	3.4Ω	700Ω	.7Ω		A-3871	T22U471	[1]	[1]Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—BOTTOM VIEW



NOTE: CONTROLS AS FOLLOWS: PHONE NOISE LIMITER OFF, AUDIO GAIN MAXIMUM, TONE CONTROL AT „TREBLE" BAND SWITCH AT NO.1 & R F GAIN AT MAXIMUM, C W SWITCH ON FOR NO. 6 TUBE READINGS.

VOLTAGE READINGS

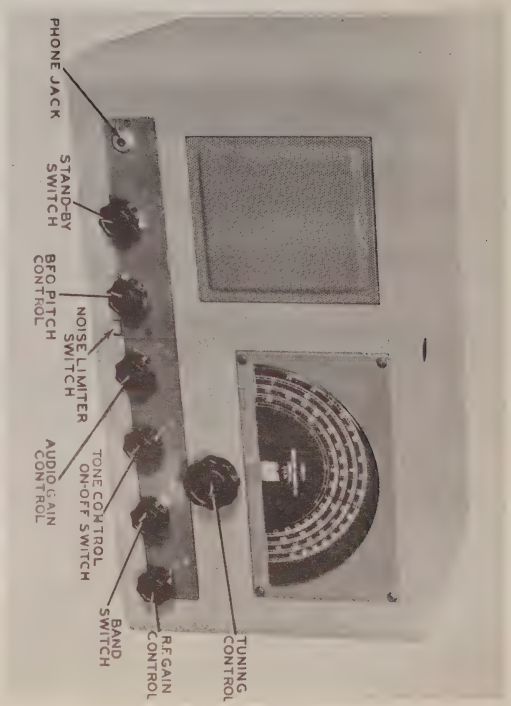
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7B7	6,5 V.AC	110 V.DC	110 V.DC	2,9 V.DC	0V.	-.6 V.DC	2,9 V.DC	0V.
2	7S7	6,5 V.AC	300 V.DC	165 V.DC	2,1 V.DC	60 V.DC	0V.	2 V.DC	0V.
3	7B7	6,5 V.AC	300 V.DC	110 V.DC	2,9 V.DC	0V.	0V.	2,9 V.DC	0V.
4	7B7	6,5 V.AC	300 V.DC	120 V.DC	3,6 V.DC	0V.	0V.	3,6 V.DC	0V.
5	7K7	6,5 V.AC	1,1 V.DC	135 V.DC	0V.	-.45 V.DC	-.45 V.DC	0V.	0V.
6	7K7	6,5 V.AC	0V.	68 V.DC	-.8 V.DC	-.75 V.DC	-.75 V.DC	-.75 V.DC	0V.
7	6G6G	0V.	6,5 V.AC	285 V.DC	300 V.DC	0V.	275 V.DC	0V.	15 V.DC
8	5Y3GT	0V.	360 V.DC	0V.	330 V.AC	0V.	330 V.AC	0V.	360 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7B7	.2 Ω	36 KΩ	14 KΩ	140 Ω	0 Ω	1.6 MEG.	140 Ω	0 Ω
2	7S7	.2 Ω	14 KΩ	31 KΩ	55 KΩ	185 KΩ	2.9 Ω	220 Ω	0 Ω
3	7B7	.2 Ω	9,5 KΩ	8 KΩ	140 Ω	0 Ω	1,8 MEG.	140 Ω	0 Ω
4	7B7	.2 Ω	9,5 KΩ	4 KΩ	450 Ω	0 Ω	1,3 MEG.	450 Ω	0 Ω
5	7K7	.2 Ω	800 Ω	132 KΩ	460 KΩ	350 KΩ	350 KΩ	0 Ω	0 Ω
6	7K7	.2 Ω	.5 Ω	110 KΩ	55 KΩ	168 KΩ	168 KΩ	1,5 MEG.	0 Ω
7	6G6G	870 KΩ	.2 Ω	9,5 KΩ	9 KΩ	172 KΩ	28 KΩ	0 Ω	450 Ω
8	5Y3GT	INF.	9,5 KΩ	INF.	100 Ω	INF.	92 Ω	INF.	9,5 KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage measurements.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: RME PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105		
78	PM	3.4Ω		Mod. P5-X		
	CONE DIA.	VC DIA.				
79	4-3/4"	1/2"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT.		

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: RME PART No.	MEISSNER PART No.	
	(Band)					
80	Ant. Coil 1	1.1Ω	2.7Ω			
81	" " 2	.3Ω	.8Ω			
82A	" " 3	0Ω	0Ω			82A & 82B wound on same form
B	" " 4	0Ω	0Ω			
83	RF Coil 1		3.5Ω			
84	" " 2		.8Ω			
85A	" " 3		0Ω			85A & 85B " " " "
B	" " 4		0Ω			
86	Osc. Coil 1	.4Ω	1.8Ω			
87	" " 2	.3Ω	.7Ω			
88A	" " 3	0Ω	0Ω			88A & 88B " " " "
B	" " 4	0Ω	0Ω			
89	Osc. Series Coil		0Ω			
90	BFO Coil		5.8Ω			
91	Input IF	8Ω	3.6Ω*	B190B-2		
92	Inter. IF	8Ω	3.6Ω*	B190B-2		
93	Output IF	8Ω	3.6Ω*	B190B-2		*Measured from tap

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: RME PART No.		INSTALLATION NOTES
94	Bayonet	6-8	0.15	Brown			Type 47
95	"	6-8	0.15	"			" "

MISCELLANEOUS

ITEM No.	PART NAME	RME PART No.	NOTES
96	Band Switch		
97	Standby Switch		2 Pole, 3 throw rotary
98	N.L. Switch		SPST Slide
99	Phone Jack		
100	3 Gang Var. Cap.		(11-469 MMF each section)

ANTENNA

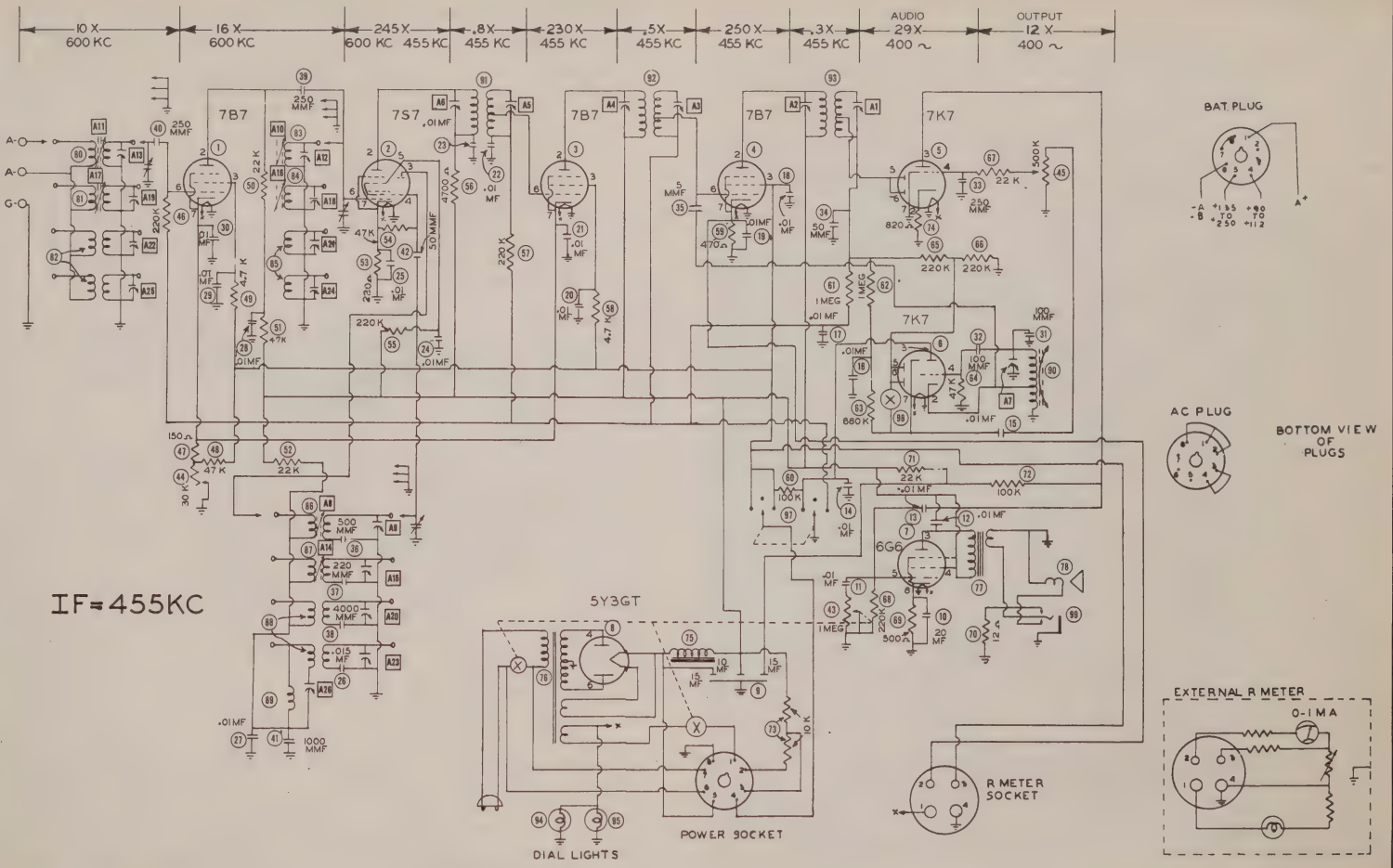
The terminals on the rear of chassis marked "A-A-G" are for the antenna and ground connections. When the receiver leaves the factory there is a jumper between the ground post (Marked G) and the adjacent antenna post. Good results may be obtained by connecting a wire 50 to 75 feet long to the other "A" post. If a 2 wire feeder system is used, the jumper is removed and the two feeders are connected to "A" and "A". The input impedance between these points is approximately 300 ohms. A ground may be connected to the "G" post if it improves reception. For antennas designed to favor certain frequencies, the owner is referred to the various amateur radio handbooks available.

NOISE LIMITER

An AUTOMATIC NOISE LIMITER is incorporated in the receiver circuit. No adjustment is required. The circuit is of a type that autometically adjusts itself to maximum effectiveness.

IMPORTANT

The action of the noise limiter is such that a slight amount of distortion is introduced on the signal. Therefore, when it is desirable to do so the noise limiter may be switched out of the circuit. This is controlled by the slide switch just below the control panel. When the switch is to the left the limiter is out of the circuit.

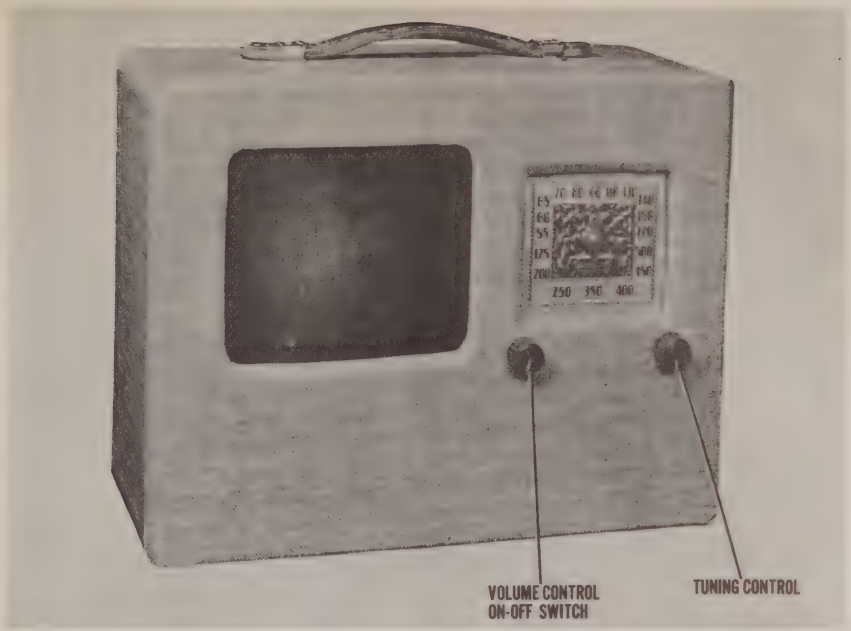


THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

474-13

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

GENERAL TELEVISION
MODEL 23 A 6



GENERAL TELEVISION
MODEL 23 A 6

GENERAL TELEVISION MODEL 23A6

TRADE NAME	General Television Model 23A6
MANUFACTURER	General Television and Radio Corp., 2701-17 Lehmann Court, Chicago 14, Ill.
TYPE SET	Three Power Portable AC-DC Battery Superheterodyne - Self Contained Loop Antenna
TUBES (FOUR)	Types, 1LA6 Converter, 1LN5 IF Amp., 1LH4 Det.-AVC-AF, 3LF4 Power Output
POWER SUPPLY	110-120 Volts AC-DC or 7½ Volt "A" Supply & 90 Volt "B" Supply in battery pack form Ray-O-Vac AB994 or equivalent
RATING	.160 Amps. @ 117V AC-54MA @ 7.3V DC & 7.7MA @ 87V DC
TUNING RANGE—BROADCAST	540-1725KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed and set pointer parallel with base of dial. Use battery power if available. When a-c power is used, use an isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to rear section of variable. Low side to chassis.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If a-c power without an isolation transformer is used, reduce dummy ant. to .001 MFD to reduce hum modulation.
	Loop	1500KC	1500KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of set and adjust for maximum output.
	"	"	Tune for maximum output.	"	A6	Adjust for maximum output.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: GEN. TELE. PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	1LA6	1LA6	7AK	
2	IF Amp.	1LN5	1LN5	7AO	
3	Det.-AVC-AF	1LH4	1LH4	5AG	
4	Power Output	3LF4	3LF4	6BB	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: GEN. TELE. PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
5A	35	150		TA-303	PRSA150-40-	EZ4431bC‡	TCD48		Filter
B	35	150			40		TC48		"
C	35	150			PRS150-40				"
6A	70	25		UHC-102	PRS25-100	BRH251	TC2501	M-100-25	Filament Bypass
B	70	25		UHC-102	PRS25-100	BRH251	TC2501	M-100-25	" "
7	.1	200		TC-1	484-.1	DT4P1	TP428	S-4-1	Line Filter
8	.25	200		TC-2	484-.25	DT4P25	TP430	S-4-25	Filament Bypass
9	.002	600		TC-22	684-002	DT6D6	TP405	S-6-002	Output Plate Bypass
10	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
11	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	" "
12	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	IF Grid Filter
13	.02	400		TC-12	484-02	DT4S2	TP423	S-4-02	AVC Filter
14	.02	400		TC-12	484-02	DT4S2	TP423	S-4-02	Conv. Screen Bypass
15	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	Output Plate Bypass
16	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	IF Bypass Vol. Cont.
17	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	Osc. Grid Capacitor

‡Do not use bypass section.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GEN. TELE. PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18A	2 Meg.	1	20-4	MR55	D13-139	M-66-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 18A per instructions
C	Switch		" "	M27	42	SW-A2	" " " " "

RESISTORS

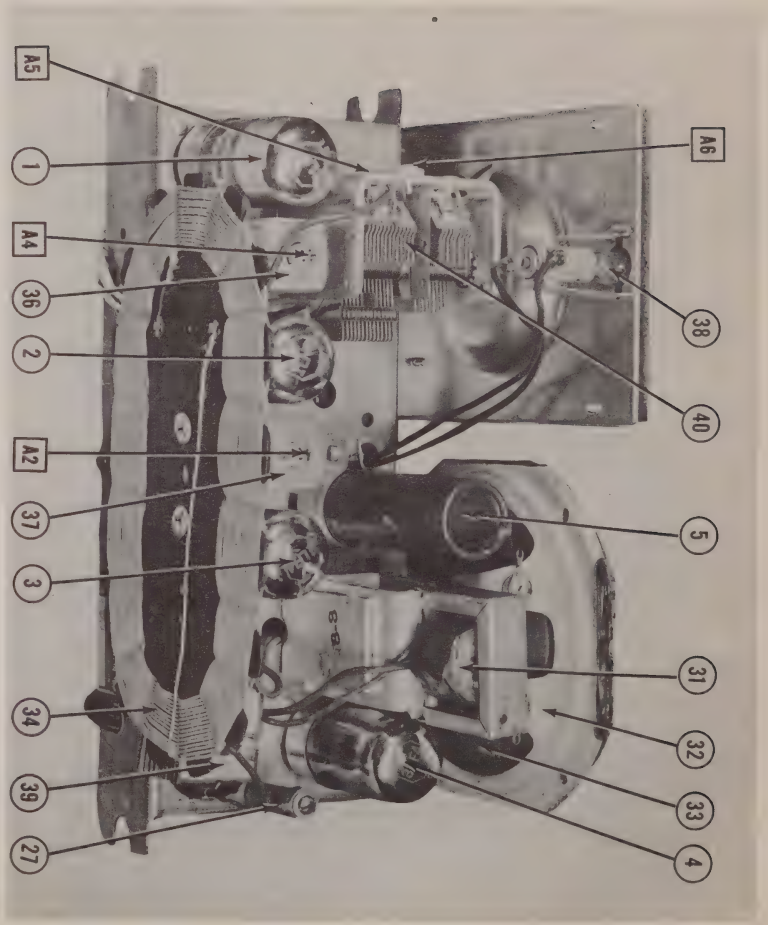
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GEN. TELE. PART No.	IRC PART No.	IDENTIFICATION CODES
19	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Oscillator Grid
20	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Converter Screen Dropping
21	6 Meg.	½		BTS-5.6 Meg.	Blue-Blk.-Grn. IF Grid
22	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
23	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AF Grid
24	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AF Plate
25	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Output Grid
26	680Ω	½		BTS-680	Blue-Gray-Br. Filament String
27	1900Ω	7		ABA-2000	Filter - See Note 1
28	2000Ω	1		BTA-2000	Red-Blk.-Red Filter
29	47Ω	1		BW-1-47	Yl.-Vi.-Blk. Rectifier Ballast
30	47Ω	1		BW-1-47	Yl.-Vi.-Blk. " "

Note 1 - On IRC Replacement set slider 1900Ω from one end.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: GEN. TELE. PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
31	7000Ω	3.1Ω	430Ω	.5Ω	TA-112-447	A-3378*	T22S47*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			GEN. TELE. PART No.	JENSEN PART No.		
32	FIELD PM	VC IMP. 3.1Ω	8-3	ST-1051 Mod. P5-X		†Fabricate new mounting bracket.
33	CONE DIA. 4-5/8"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

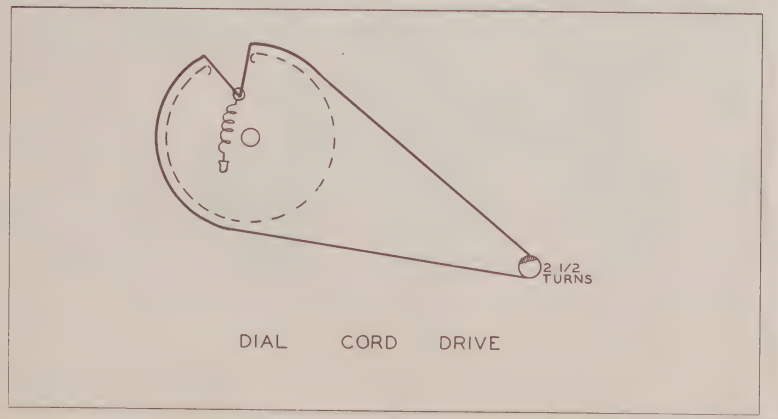
ITEM No.	USE	DC RES.		REPLACEMENT DATA	
		PRI.	SEC.	GEN. TELE. PART No.	MEISSNER PART No.
34	Loop Ant.		1Ω		
35	Osc. Coil	1Ω	5.5Ω		14-1040
36	Input IF	10Ω	10Ω		16-6668
37	Output IF	10Ω	10Ω		16-6669

DIAL LIGHT

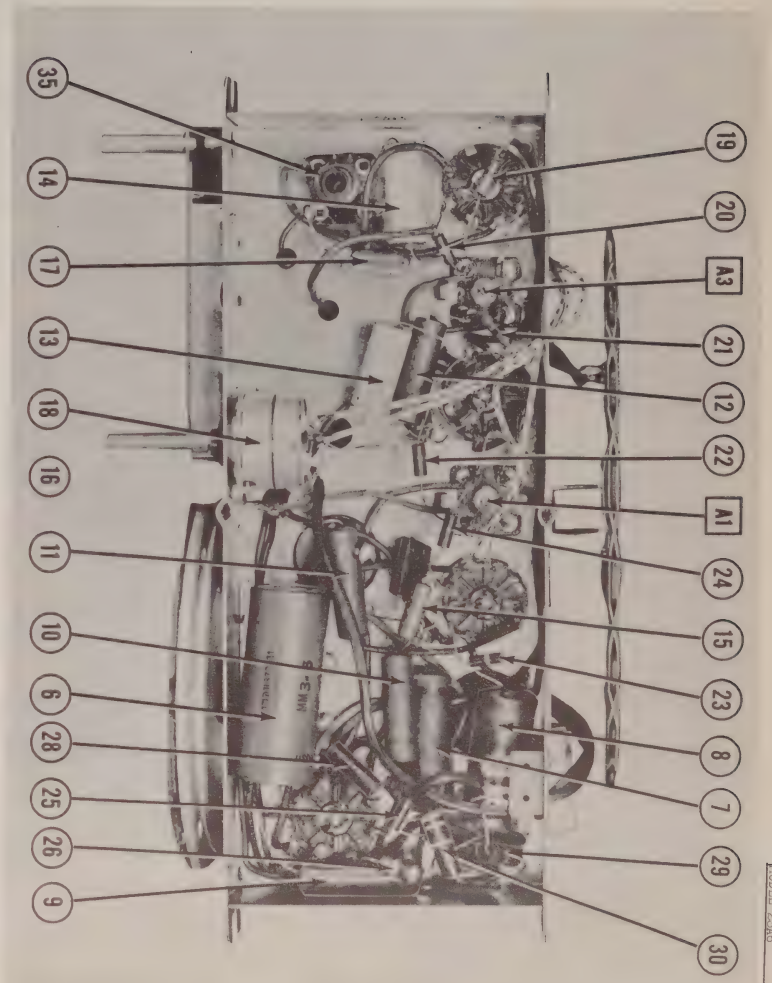
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					GEN. TELE. PART No.		
38	Bayonet	6-8	0.15	Brown			Type 47

MISCELLANEOUS

ITEM No.	PART NAME	GEN. TELE. PART No.	NOTES
39	Rectifier	5-2	Selenium
40	2 Gang Var. Cap		(34-464 MMF, 34-192 MMF)

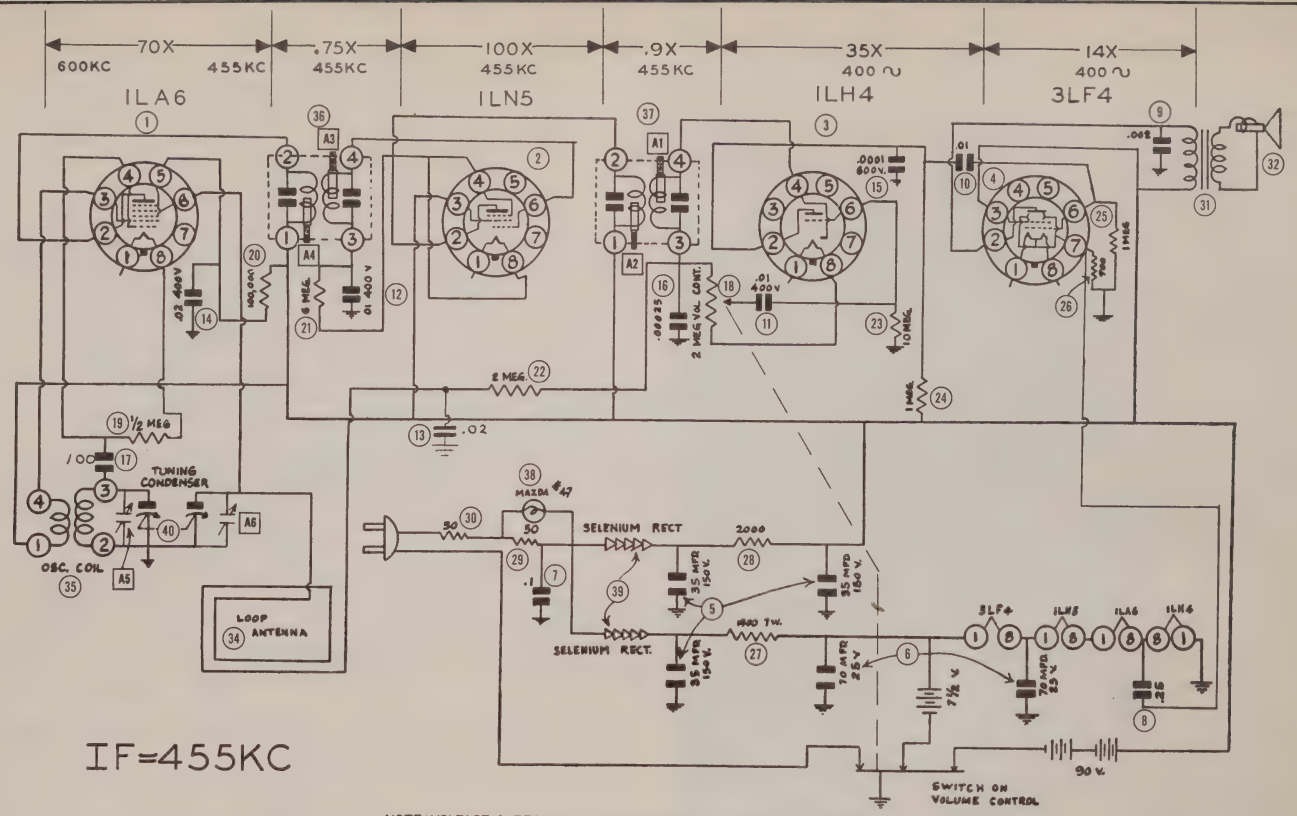


CHASSIS—BOTTOM VIEW



GENERAL TELEVISION MODEL 23A6

GENERAL TELEVISION MODEL 23A6



NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN AC-DC POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	ILA6	3.6 V.DC	107 V.DC	107 V.DC	1.4 V.DC	42 V.DC	0V.	0V.	1.8 V.DC
2	ILN5	5.2 V.DC	107 V.DC	107 V.DC	3.6 V.DC	3.6 V.DC	0V.	0V.	3.6 V.DC
3	ILH4	0V.	50 V.DC	8.2 V.DC	.2 V.DC	0V.	-2 V.DC	0V.	1.8 V.DC
4	3LF4	8.2 V.DC	105 V.DC	107 V.DC	0V.	132 V.DC	0V.	6.7 V.DC	5.2 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	ILA6	*	55 Kn	55 Kn	625 Kn	195 Kn	4 MEG.	INF.	*
2	ILN5	*	55 Kn	55 Kn	*	*	6 MEG.	4 MEG.	*
3	ILH4	*	1.4 MEG.	60 n	1.6 MEG.	INF.	10 MEG.	INF.	*
4	3LF4	*	55 Kn	55 Kn	INF.	55 Kn	1.2 MEG.	53 n	*

*DO NOT USE OHMMETER TO CHECK FILAMENT RESISTANCE

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

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The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by shorting to low end of volume control.

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Line voltage maintained at 117 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.

KNIGHT
MODEL 5A-190

KNIGHT MODEL 5A-190

TRADE NAME	Knight Model 5A-190
SUPPLIER	Allied Radio Corp., 833 W. Jackson Blvd., Chicago, Ill.
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (FIVE)	Types, 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier or Types 12BE6, 12BA6, 12AT6, 50B5, 35W4 respectively.
POWER SUPPLY	110-125 Volts AC-DC
POWER SUPPLY	.235 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1720 KC.

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed and set pointer at last reference mark at low frequency end of dial. Use isolation transformer if available, if not connect capacitor in series with low side of signal generator and B-. Volume control should be at maximum volume and output of signal generator no higher than is necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to stator of rear section of variable. Low side to B-.	455KC	High frequency end.	Across voice coil.	A1,A2, A3,A4	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 to reduce hum modulation.
.1 MFD.	"	1720KC	"	"	A5	"
200 MMFD	High side to external ant. lead. Low side to B-.	1400KC	Tune for maximum output.	"	A6	Adjust for maximum output.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: KNIGHT PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1A	Converter	12SA7GT	12SA7GT	8AD	
B	Converter	12BE6	12BE6	7CH	
2A	IF Amp.	12SK7GT	12SK7GT	8N	
B	IF Amp.	12BA6	12BA6	7CC	
3A	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
B	Det.-AVC-AF	12AT6	12AT6	7BT	
4A	Power Output	50L6GT	50L6GT	7AC	
B	Power Output	50B5	50B5	7BZ	
5A	Rectifier	35Z5GT	35Z5GT	8AL	
B	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: KNIGHT PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150	EC-3	TA-240	PRSA150-40-40	BRD4215	2N514	M-2x40-150	Filter - Red
B	20	150							" - White
7	.05	400	PC-5	TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
8	.01	400	PC-7	TC-11	484-01	DT4S1	TP421	S-4-01	Output Plate Bypass
9	.01	400	PC-7	TC 11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
10	.01	400	PC-7	TC-11	484-01	DT4S1	TP421	S-4-01	" "
11	.05	400	PC-5	TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
12	.1	400	PC-9	TC-1	484-.1	DT4P1	TP428	S-4-1	Line Isolation
13	.01	400	PC-7	TC-11	484-01	DT4S1	TP421	S-4-01	Ant. Coupling
14	500	500	MC-5	1FM-45	1468-0005	5W5T5	MC245	M0.5-35	Audio Plate Bypass
15	100	500							IF Bypass Diode Cer.
16	39	500							Osc. Grid Capacitor Cer.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: KNIGHT PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control. See Note 1
B	Shaft			Not Req.	A	Not Req.	Attach to 17A per instructions
C	Switch			M26	41	SW-A	" " " " "
17A	1 Meg.	1		MR53	D13-137	M-63-Z	Volume Control See Note 2
B	Shaft			Not Req.	A	Not Req.	Attach to 17A per instructions
C	Switch			M26	41	SW-A	" " " " "

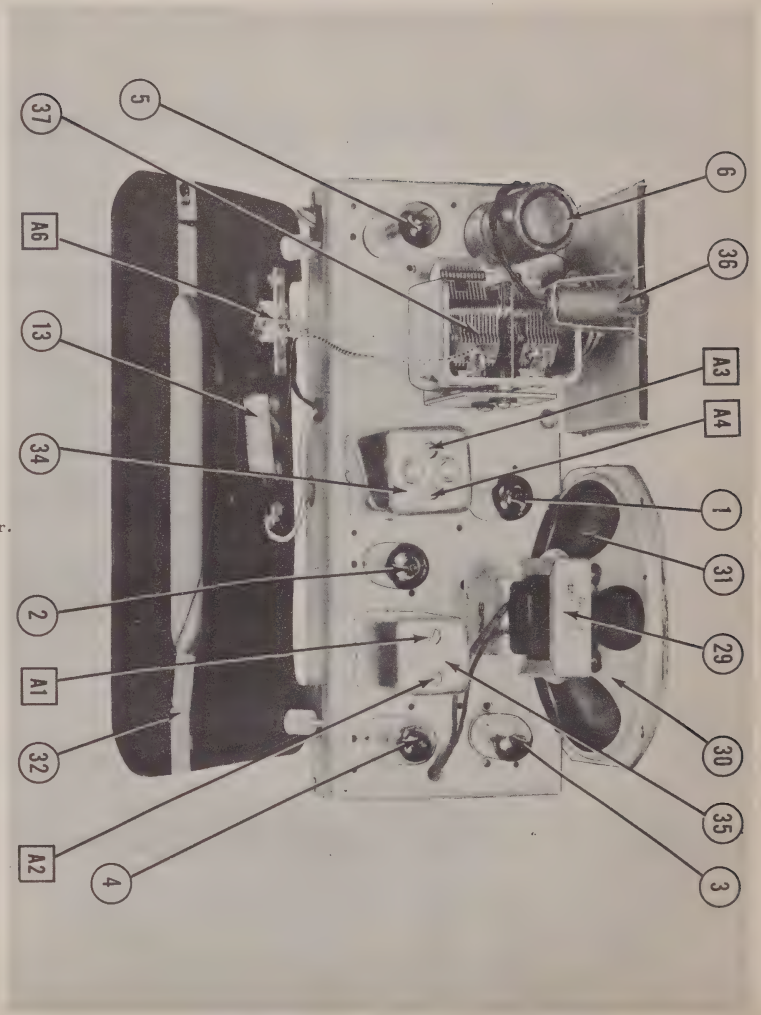
Note 1 - Used in later production.
Note 2 - Used in early production.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: KNIGHT PART No.	IRC PART No.	IDENTIFICATION CODES
18	33KΩ	1/2	IR-16	BTS-33K	Or.-Or.-Or. Oscillator Grid
19	2 Meg.	1/2	IR-13	BTS-2.2 Meg.	Red-Blk.-Grn. AVC Network
20	2 Meg.	1/2	IR-13	BTS-2.2 Meg.	Red-Blk.-Grn. 1st AF Grid
21	510KΩ	1/2		BTS-470K	Grn.-Br.-Yl. " " Plate Load
22	510KΩ	1/2		BTS-470K	Grn.-Br.-Yl. Output Grid
23	150Ω	1/2	IR-15	BW-1/2-150	Br.-Grn.-Br. " Cathode
24	39Ω	1/2		BW-1/2-150	Or.-White-Blk. Rectifier Ballast
25	1800Ω	1		BTA-1800	Br.-Gray-Red Filter
26	39Ω	1/2		BW-1/2-39	Or.-White-Blk. Parasitic Suppressor
27	100Ω	1/2		BW-1/2-100	Br.-Blk.-Br. IF Cathode
28	47KΩ	1/2		BTS-47K	Yl.-Vl.-Or. RF Filter‡

‡Used only on models using 500KΩ volume control.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		KNIGHT PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
29	2040Ω	2.8Ω	149Ω	.59Ω	Part of SPK-4	A-3876*	T-22S45*		* Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			KNIGHT PART No.	JENSEN PART No.		
	FIELD	VC IMP.		ST-105		
30	FM	2.5Ω	SPK-4	Mod.P5-X		
	CONE DIA.	VC DIA.				
31	4-9/16"	1.2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

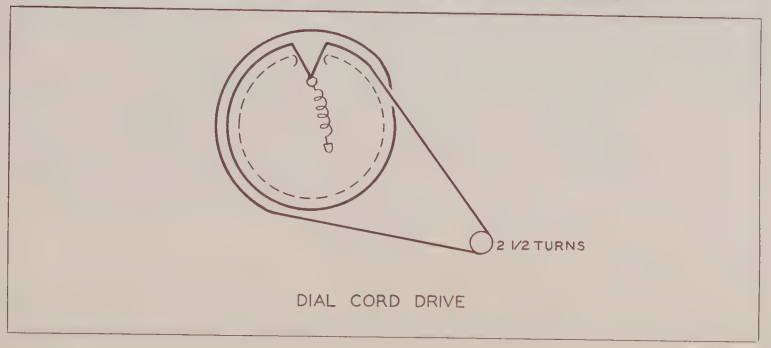
ITEM No.	USE	DC RES		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	KNIGHT PART No.	MEISSNER PART No.	
32	Loop Ant.	.1Ω	1.5Ω	LL-1		
33	Osc. Coil		7.8Ω	LO-2		
34	Input IF	19Ω	19Ω	LI-1	16-6965	
35	Output IF	20.5Ω	19Ω	LI-2	16-6967	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					KNIGHT PART No.		
36	Bayonet	6-8	0.1A	Brown	PB-1		Type 47

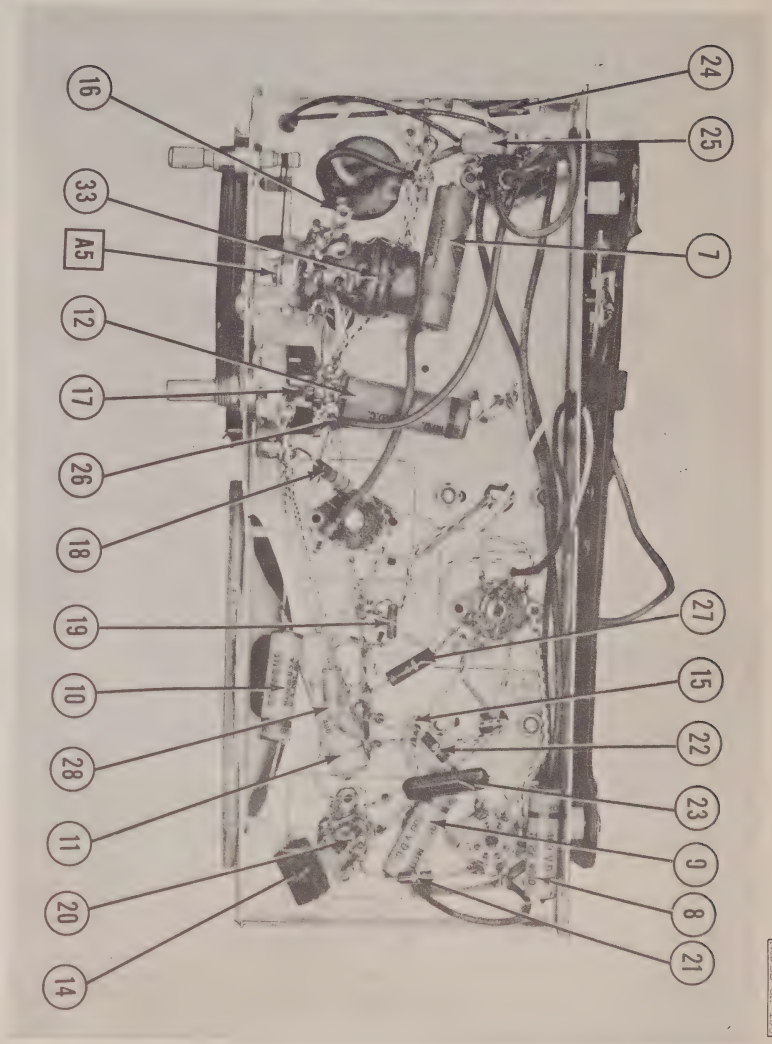
MISCELLANEOUS

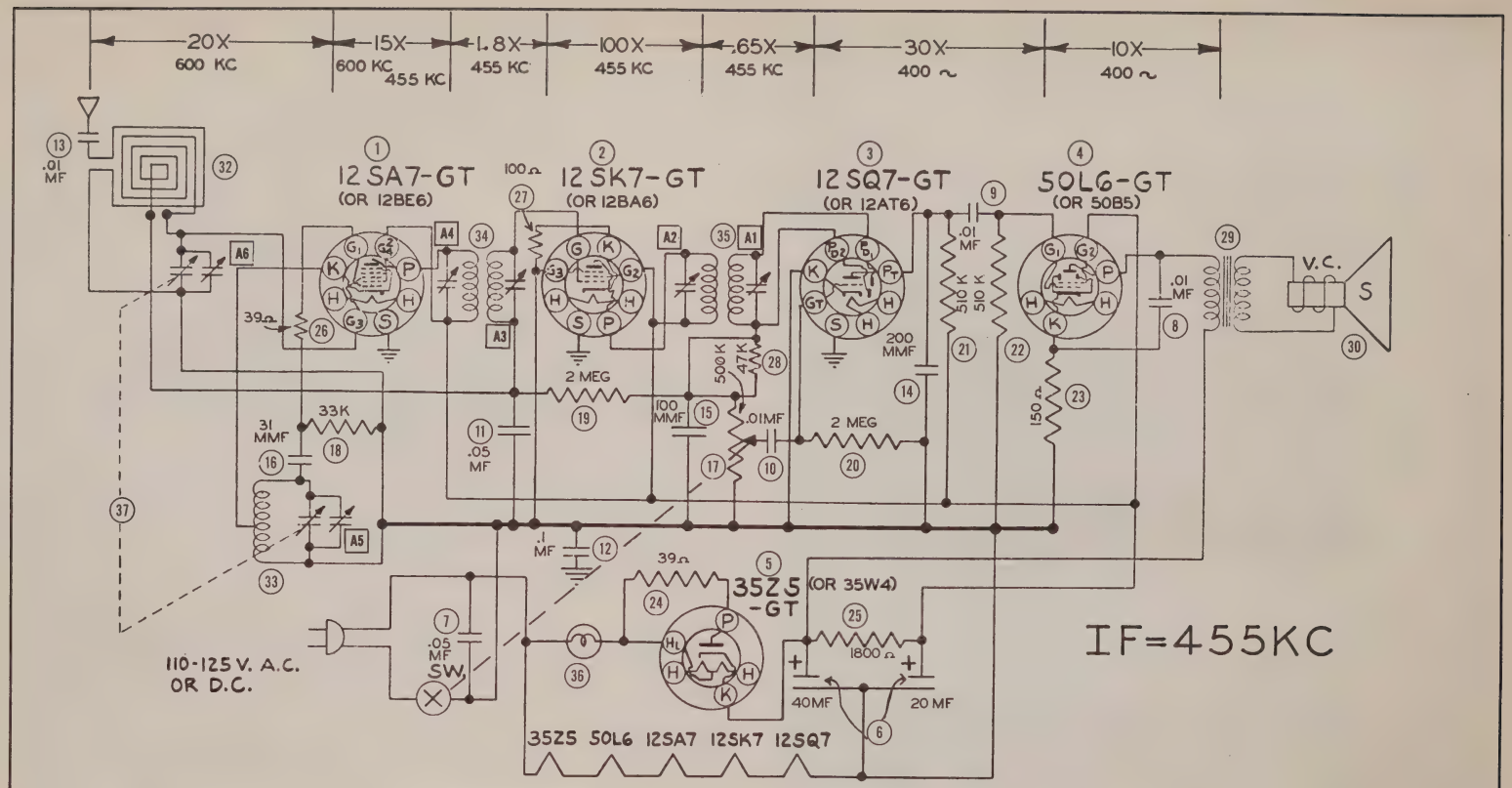
ITEM No.	PART NAME	KNIGHT PART No.	NOTES
37	2 Gang Var. Cap.	GC-2	
A5	Trimmer	TC-6	Osc. Adjustment
A6	"	TC-7	Ant. "



DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	0V.	0V.	23V.AC	11V.AC	70V.DC	70V.DC	0V.
2	12BA6	0V.	0V.	23V.AC	37V.AC	70V.DC	70V.DC	-9V.DC
3	12AT6	-5V.DC	0V.	11V.AC	0V.	-.7V.DC	-.7V.DC	31V.DC
4	50B5	0V.	4.4V.DC	37V.AC	90V.AC	117V.DC	70V.DC	0V.
5	35W4	0V.	0V.	90V.AC	117V.AC	103V.AC	105V.AC	116V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	31KΩ	.8Ω	23Ω	13Ω	40KΩ	40KΩ	2.2MEG
2	12BA6	2.2MEG.	0Ω	23Ω	34Ω	40KΩ	40KΩ	100Ω
3	12AT6	2 MEG.	0Ω	13Ω	0Ω	460KΩ	460KΩ	550KΩ
4	50B5	460KΩ	140Ω	34Ω	78Ω	40KΩ	40KΩ	460KΩ
5	35W4	INF.	INF.	78Ω	102Ω	130Ω	99Ω	40KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-15

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

LAFAYETTE
MODELS MC10B, MC10Y

LAFAYETTE
MODELS MC10B, MC10Y

LAFAYETTE MODEL MC10B

TRADE NAME	Lafayette, Models MC10B, MC10Y
SUPPLIER	Radio Wire Television, Inc., 100 Sixth Ave., New York 13, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (FIVE)	Types, 12BE6 Converter, 12BA6 IF Amp., 12AT6 Det.-AVC-AF, 50B5 Power Output, 35W4 Rectifier.
POWER SUPPLY	110 - 120 Volts AC-DC
TUNING RANGE--BROADCAST	540-1700KC RATING .250 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer to last reference mark at low frequency end. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to rear stator of variable. Low side to chassis.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
200MMFD.	High side to ext. ant. lug. Low side to chassis.	1500KC	1500KC	"	A5	Adjust for maximum output.
200MMFD.	"	"	Tune for maximum output.	"	A6	" " " "

HOWARD W. SAMS & CO., INC. Indianapolis Indiana

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: LAFAYETTE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12BE6	12BE6	7CH	
2	IF Amp.	12BA6	12BA6	7CC	
3	Det.-AVC-AF	12AT6	12AT6	7BT	
4	Power Output	50B5	50B5	7BZ	
5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: LAFAYETTE PART No.	REPLACEMENT DATA: SPRAGUE PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	50	150		TA-530	PRSA150-40-	BRU3515	2N520	DSB-5030-150	Filter - Green
B	30	150			40				" - Red
7	.05	400		TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
8	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	Output Plate Bypass
9	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
10	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	" "
11	.05	400		TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
12	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	Audio Plate Bypass
13	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	IF Bypass Vol. Cont.
14	50								Osc. Grid Capacitor

CONTROLS

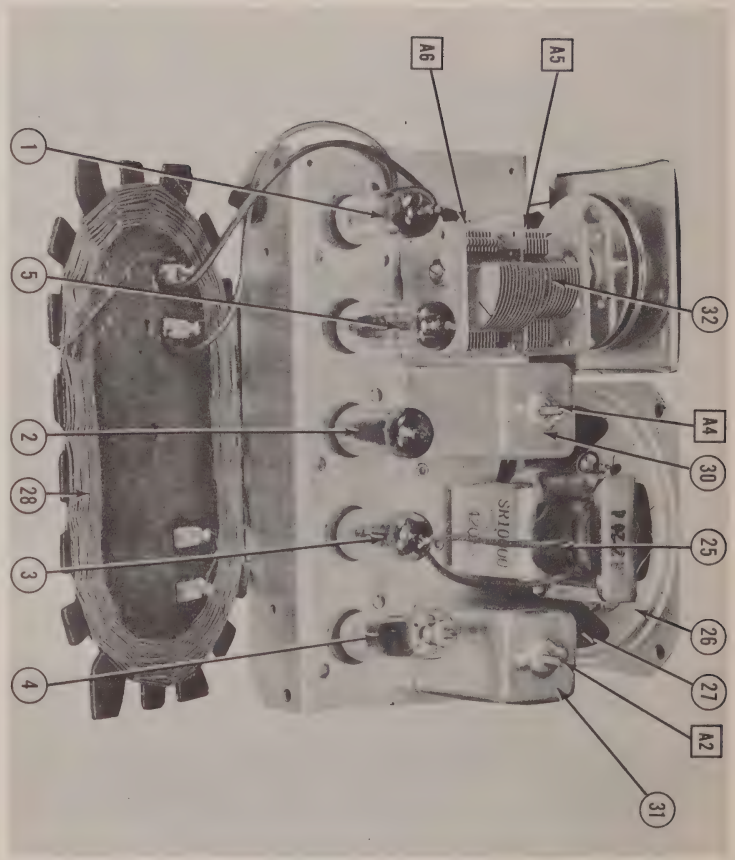
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: LAFAYETTE PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: CLAROSTAT PART No.	INSTALLATION NOTES
15A	500KΩ	1		MR48	D13-133	M-80-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 15A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: LAFAYETTE PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
16	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Grid
17	150Ω	½		BW-½-150	Br.-Grn.-Br. IF Cathode
18	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
19	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AF Grid
20	240KΩ	½		BTS-220K	Red-Yl.-Yl. AF Plate Load
21	510KΩ	½		BTS-470K	Grn.-Br.-Yl. Output Grid
22	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
23	1200Ω	1		BTA-1200	Br.-Red-Red Filter
24	30Ω	½		BW-½-33	Or.-Blk.-Blk. Rectifier Ballast-See Note 1

Note 1 - Not used in all models.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		LAFAYETTE PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
25	3000Ω	2.1Ω	125Ω	.7Ω		A-3876*	T22S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

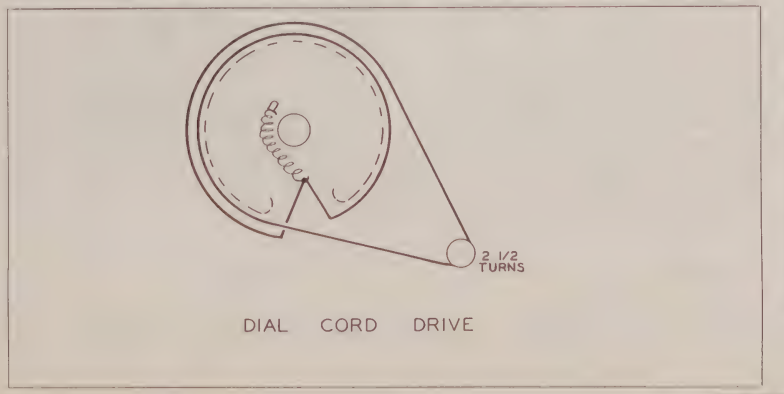
ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			LAFAYETTE PART No.	JENSEN PART No.		
26	FIELD IMP.	VC IMP. 3.1Ω				
27	CONE DIA. 4"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

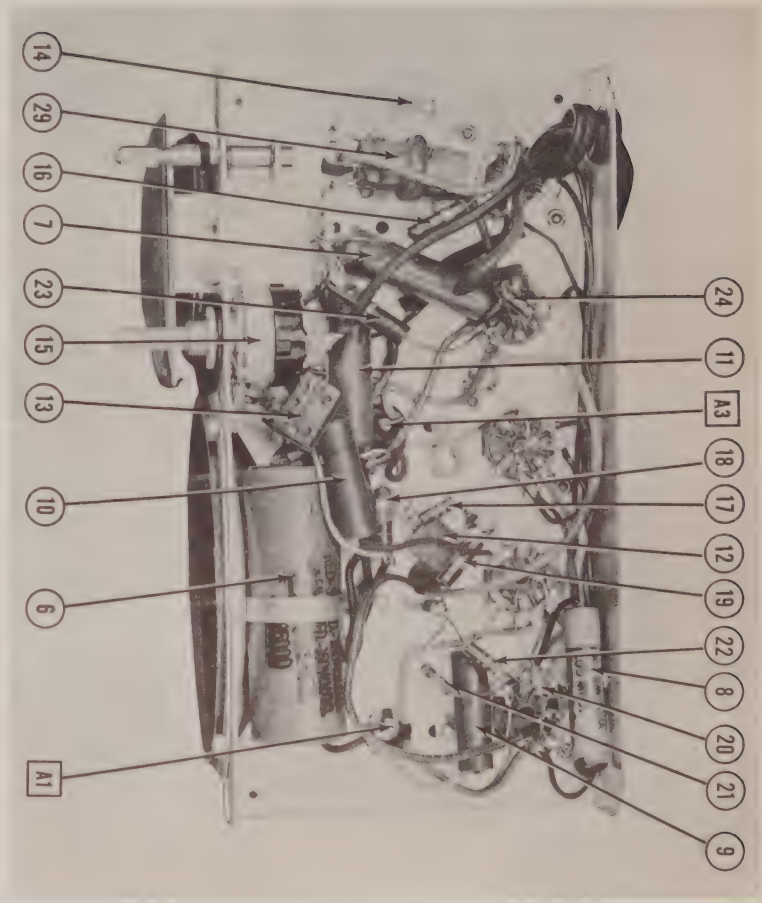
ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	LAFAYETTE PART No.	MEISSNER PART No.	
28	Loop Ant.	0Ω	3Ω			
29	Osc. Coil		0Ω			
30	Input IF	16Ω	16Ω		16-6658	
31	Output IF	14.5Ω	14.5Ω		16-6660	

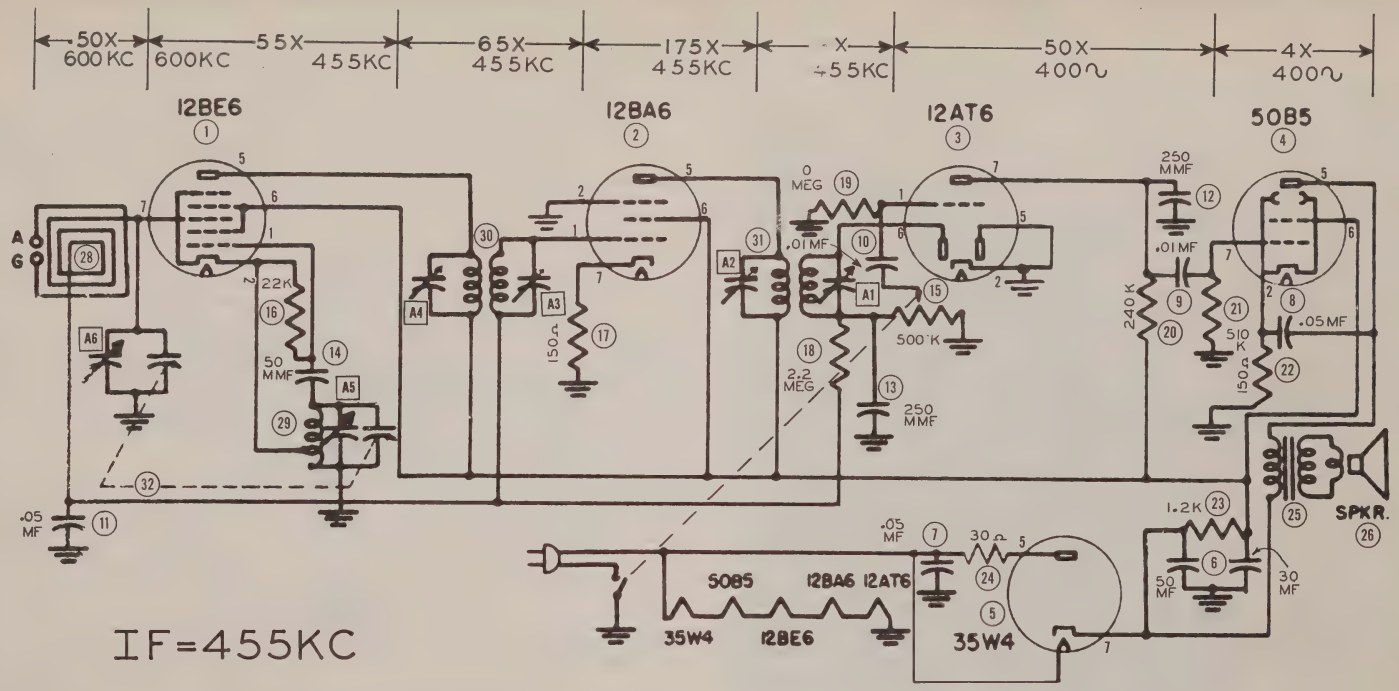
MISCELLANEOUS

ITEM No.	PART NAME	LAFAYETTE PART No.	NOTES
32	Gang Var. Cap.		(19-471 MMF, 29-147 MMF)



CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	-6.3V.DC	0V.	34 V.AC	23 V.AC	105 V.DC	105 V.DC	0V.
2	12BA6	0V.	0V.	23 V.AC	12 V.AC	105 V.DC	105 V.DC	1.6 V.DC
3	12AT6	-.62 V.DC	0V.	12 V.AC	0V.	0V.	-2 V.DC	55 V.DC
4	50B5	0V.	6.5 V.DC	34 V.AC	85 V.AC	122 V.DC	105 V.DC	0V.
5	35W4	117 V.AC	0V.	117 V.AC	85 V.AC	115 V.AC	92 V.AC	125 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	21 KΩ	.5 Ω	33 Ω	22 Ω	115 KΩ	115 KΩ	2.2 MEG.
2	12BA6	2.2 MEG.	0 Ω	22 Ω	12 Ω	115 KΩ	115 KΩ	150 Ω
3	12AT6	10 MEG.	0 Ω	12 Ω	0 Ω	0 Ω	500 KΩ	355 KΩ
4	50B5	450 KΩ	140 Ω	23 Ω	80 Ω	115 KΩ	115 KΩ	450 KΩ
5	35W4	108 Ω	INF.	108 Ω	80 Ω	135 Ω	87 Ω	115 KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

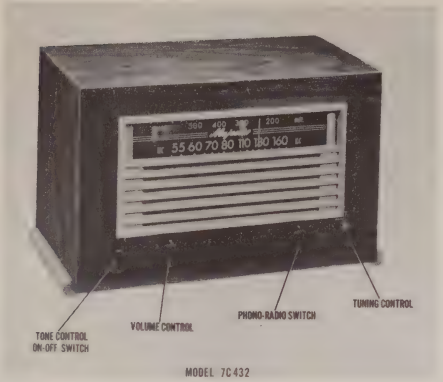
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-16

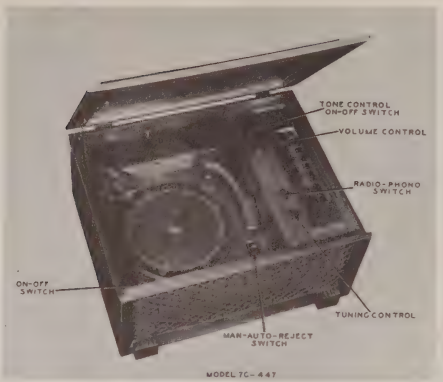
The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

MAJESTIC
MODEL 7C432 (CH. 4706), (CH. 4707)



MODEL 7C432



MODEL 7C-447

TRADE NAME	Majestic, Models 7C432 (Chassis 4706), 7C447 (Chassis 4707)
MANUFACTURER	Majestic Radio & Television Corp., St. Charles, Ill.
TYPE SET	AC Operated Superheterodyne (Model 7C447 has Auto. Record Changer - Model 7C432 has Input Jack and Change-Over Switch for Phonograph use if desired)Self Cont. Loop Ant.
TUBES (SEVEN)	Types, 6SA7 Mixer, 6J5 Oscillator, 6SK7 IF Amp., 6H6 Det.-AVC, 6SQ7 Audio Amp., 6V6GT Power Output, 5Y3GT Rectifier.
POWER SUPPLY	110-120 Volts AC
TUNING RANGE—BROADCAST	530-1650KC RATING .500 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer to last reference mark at low frequency end of dial. Volume control should be at maximum volume. Output of signal generator should be no higher than necessary to obtain output reading. Maintain loop in same relative position to chassis as when receiver is in cabinet. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.01 MFD.	High side to grid (Pin 8) 6SA7. Low side to chassis.	455KC	High freq.end (Slugs completely out)	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. Repeat in opposite order.
	Loop	1500KC	1500KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
	"	"	Tune for maximum output.	"	A6	"
	"	600KC	"	"	A7	Rock variable and adjust for maximum output. Repeat last three steps until no further output is obtained.

DISASSEMBLY INSTRUCTIONS-MODEL 7C447

1. Remove the push-on type control knobs.
2. Disconnect the phono-motor plug from chassis.
3. Disconnect the phono-pickup plug from chassis.
4. Disconnect the loop antenna leads from the chassis.
5. Disconnect the speaker.
6. Remove the two hex head machine screws and the two Phillips head screws and washers holding the chassis to chassis board. Remove chassis from cabinet.
7. Remove the two nuts from the speaker mounting bolt. Remove speaker from cabinet.
8. Remove the two Phillips head screws holding loop antenna to cabinet and slide loop from cabinet.

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: MAJESTIC PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mixer	6SA7	6SA7	8R	
2	Osc.	6J5	6J5	6Q	
3	IF Amp.	6SK7	6SK7	8N	
4	Det.-AVC	6H6	6H6	7Q	
5	Audio Amp.	6SQ7	6SQ7	8Q	
6	Power Output	6V6GT	6V6GT	7AC	
7	Rectifier	5Y3GT	5Y3GT	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MAJESTIC PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
8A	30	400	19-26	EL-322	AF22J4A	UP6CJ471†	FP390†	DY-312	■ Filter
B	10	400			PRS450-20				▲ "
C	20	25				BR202A	TC26		Cath. Bypass
9	.005	600	5-61	TC-25	684-005	DT6D5	TP408	S-6-005	Output Plate Bypass
10	.01	400	6-132	TC-11	484-01	DT4S1	TP421	S-4-01	Tone Compensation
11	.01	400	6-132	TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
12	.01	200	6-112	TC-11	484-01	DT4S1	TP421	S-4-01	" "
13	.01	200	5-57	TC-11	484-01	DT4S1	TP421	S-4-01	Tone Compensation
14	.1	200	5-39	TC-1	484-.1	DT4P1	TP428	S-4-1	IF Cath. Bypass
15	.05	600	5-77	TC-15	684-05	DT6S5	TP415	S-6-05	Conv. Screen Bypass
16	.05	200	5-40	TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
17	220	500	6-151	1FM-325	1468-00025	5W5T25	MC240	MO.5-325	Audio Plate Bypass
18	220	500	6-151	1FM-325	1468-00025	5W5T25	MC240	MO.5-325	IF Bypass Diode
19	47	500	6-159						Osc. Grid Capacitor
20	47	500	6-159						Fixed Trimmer *

*Not used in all models.
†Parallel sections to obtain desired capacity.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MAJESTIC PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
21A	200KΩ	1	14-6	MK400	D13-130	AM-64-Z	Tone Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 21A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "
22A	500KΩ	1	13-19	MK401	D13-133	AM-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 22A per instructions

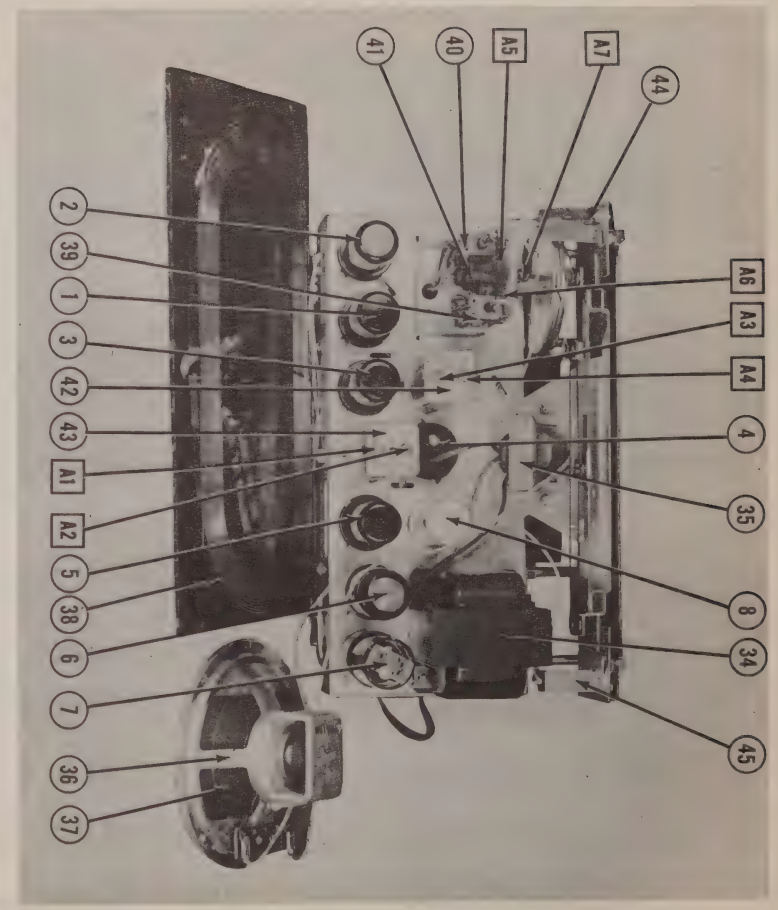
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MAJESTIC PART No.	IRC PART No.	IDENTIFICATION CODES
23	22KΩ	1/3	9-184	BTS-22K	Red-Red-Or. Oscillator Grid
24	220Ω	1/3	9-208	BW-½-220	Red-Red-Br. IF Cathode
25	22KΩ	1	9-320	BTA-22K	Red-Red-Or. Screen Dropping
26	3.3 Meg.	1/3	9-206	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
27	47KΩ	1/3	9-201	BTS-47K	Yl.-Vi.-Or. Diode RF Filter
28	10 Meg.	1/3	9-160	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
29	470KΩ	1/2	9-211	BTS-470K	Yl.-Vi.-Yl. AF Plate Load
30	470KΩ	1/3	9-207	BTS-470K	Yl.-Vi.-Yl. Output Grid
31	820Ω	1/2	02-83	BTS-820	Gray-Red-Br. Output Cathode
32	1000Ω	1	9-169	BTA-1000	Br.-Blk.-Red Filter
33	18KΩ	1/4	9-269	BTS-18K	Br.-Gray-Or. Tone Compensation

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: MAJESTIC PART No.	STANCOR PART No.	THORDARSON PART No.	INSTALLATION NOTES
34	117V AC @ .5A	540V CT @ .05A	5.0V AC @ 1.8A	6.4V AC @ 2.2A	2-16		T22R30	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA MAJESTIC PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA THORDAR'N PART No.	REPLACEMENT DATA	INSTALLATION NOTES
35A	4900Ω	3.3Ω	320Ω tapped @ 14Ω	.75Ω	12-26	A-3877 ‡			‡Add extra filter to reduce hum level. Used in Model 7C447
B					12-27				Used in Model 7C432

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA MAJESTIC PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA	INSTALLATION NOTES
	FIELD	VC IMP.				
36A	PM	3.3Ω	22-26	ST-106 Mod. P5-W		Used in Model 7C447
	CONE DIA.	VC DIA.				
37	4½"	½"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
36B			22-20			Used in Model 7C432

R F COILS

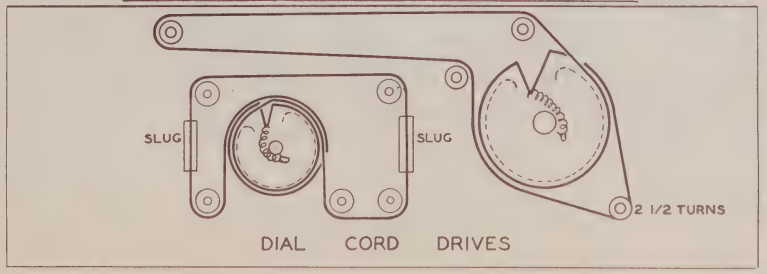
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA MAJESTIC PART No.	REPLACEMENT DATA MEISSNER PART No.	
38A	Loop Ant.	.1Ω	1.7Ω	20-24		Used in Model 7C447
B	" "			20-23		Used in Model 7C432
39	Ant. Coil		9.5Ω			Item Nos. 39, 40 and 41 are tuner assembly
40	Osc. Coil		7Ω			and may be obtained under Part #32-1
41	Osc. Padder Coil		7.5Ω			
42	Input IF	21Ω	21Ω	3-159	16-6666	
43	Output IF	24Ω	23Ω	3-160	16-6667	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA MAJESTIC PART No.	REPLACEMENT DATA	INSTALLATION NOTES
44	Bayonet	6-8	0.15	Brown	28-2		Type 47
45	"	6-8	0.15	"	28-2		"

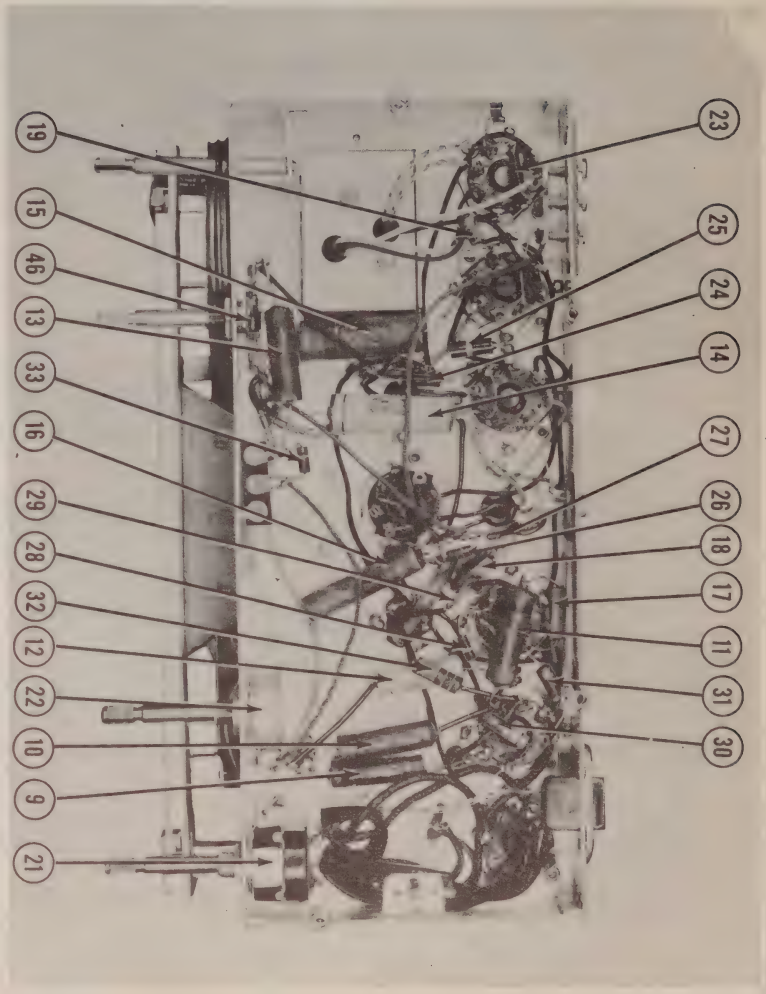
MISCELLANEOUS

ITEM No.	PART NAME	MAJESTIC PART No.	NOTES
46	Phono-Radio-Sw.	11-52	
	Dial Scale	117-56	Model 7C432
	" "	117-59	" 7C447
	Dial Pointer	135-8	
	Cabinet	115-7	" 7C432
	"	115-14	" 7C447



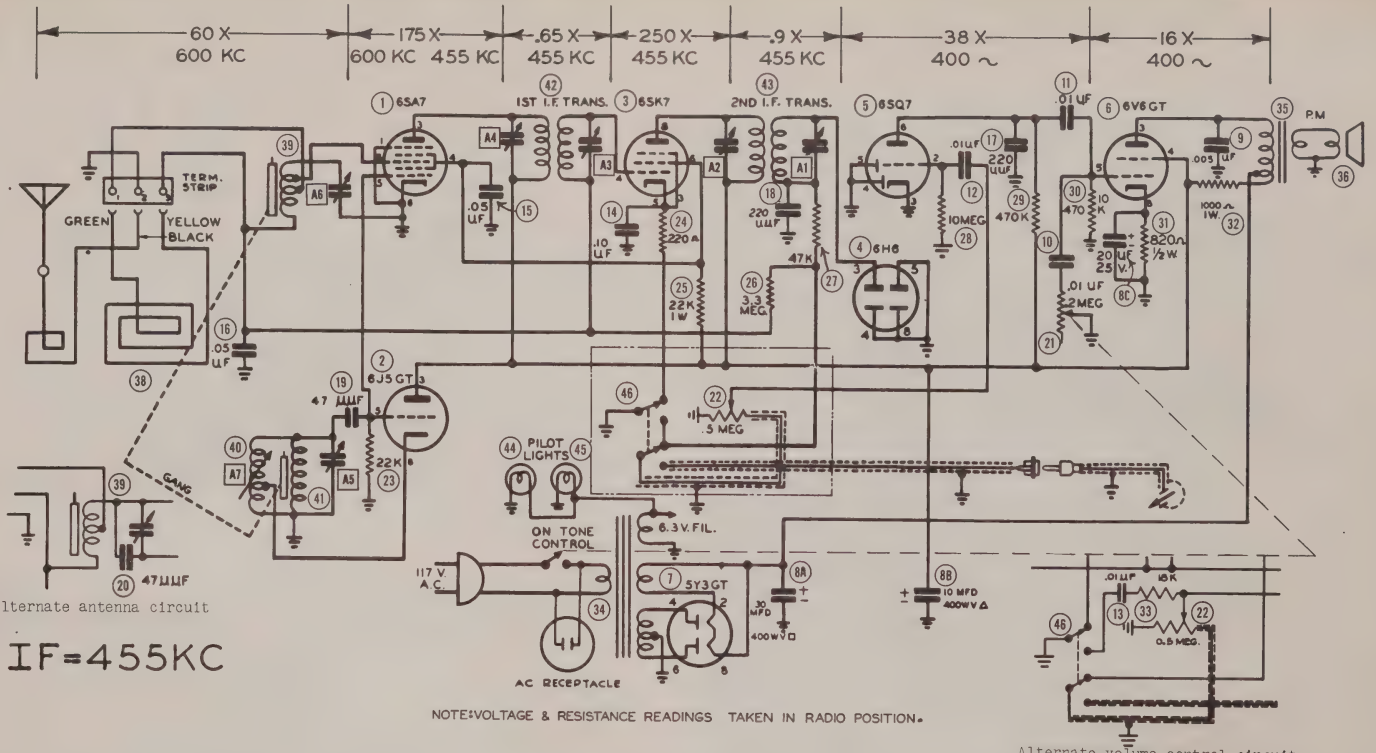
DIAL CORD DRIVES

CHASSIS—BOTTOM VIEW



MAJESTIC MODEL 7C432

MAJESTIC MODEL 7C432



IF=455KC

NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN RADIO POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SA7	0V.	0V.	265 V.DC	75 V.DC	-3.6 V.DC	0V.	6.4 V.AC	335V.DC
2	6J5	0V.	0V.	265 V.DC	0V.	-3.6 V.DC	0V.	6.4 V.AC	0V.
3	6SK7	0V.	0V.	135V.DC	-.85 V.DC	135V.DC	75 V.DC	6.4 V.AC	265V.DC
4	6H6	0V.	6.4 V.AC	-.4 V.DC	0V.	0V.	0V.	0V.	0V.
5	6SQ7	0V.	-.4 V.DC	0V.	0V.	0V.	100 V.DC	6.4 V.AC	0V.
6	6V6GT	0V.	0V.	295 V.DC	265 V.DC	0V.	300 V.DC	6.4 V.AC	18 V.DC
7	5Y3GT	0V.	300 V.DC	0V.	270 V.AC	0V.	270 V.AC	0V.	300 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SA7	0Ω	0Ω	160 KΩ	182 KΩ	18 KΩ	0Ω	.2 Ω	4 MEG.
2	6J5	0Ω	0Ω	160 KΩ	INF.	18 KΩ	3.5Ω	.2 Ω	.5 Ω
3	6SK7	0Ω	0Ω	200 Ω	4 MEG.	200 Ω	182 KΩ	.2 Ω	160 KΩ
4	6H6	INF.	.2 Ω	450 KΩ	0Ω	0Ω	INF.	0Ω	0Ω
5	6SQ7	0Ω	10 MEG.	0Ω	0Ω	0Ω	630 KΩ	.2 Ω	0Ω
6	6V6GT	0Ω	0Ω	160 KΩ	160 KΩ	395 KΩ	160 KΩ	.2 Ω	800 Ω
7	5Y3GT	INF.	160 KΩ	INF.	220 Ω	INF.	230Ω	INF.	160 KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-17

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

MASON
MODEL 45-1A

MASON
MODEL 45-1A

MASON MODEL 45-1A

TRADE NAME	Mason, Model 45-1A
MANUFACTURER	Mason Radio Products Co., Kingston, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (SIX)	Types, 12SK7GT RF Amp., 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 35L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540 - 1725 KC RATING .265 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set the pointer parallel to the base of the dial plate. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to rear stator of variable Low side to chassis.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If Isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
.1 MFD.	High side to ext. ant. lead. Low side to chassis.	"	Variable fully closed.	"	A5	Adjust for minimum output.
200MMFD.	"	1400KC	1400KC	"	A6	Adjust for maximum output.
200MMFD.	"	"	Tune for maximum output.	"	A7	" " " "

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: MASON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SK7GT	12SK7GT	8N	
2	Converter	12SA7GT	12SA7GT	8AD	
3	IF Amp.	12SK7GT	12SK7GT	8N	
4	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MASON PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	30	150			PRS150-40-	EZ532150	PN520	DSB-403020-	Filter - Blue
B	50	150			40			150	" - Yellow
C	20	150			PRS150-20		TC45		" - Red
8	.05	600		TC-15	684-05	DT6S5	TP415	S-6-05	Line Filter
9	.04	200		TC-14	484-04	DT4S4	TP425	S-6-04	Output Plate Bypass
10	.02	200		TC-12	484-02	DT4S2	TP423	S-4-02	Audio Coupling
11	.001	600		TC-21	684-001	DT6D1	TP404	S-6-001	Audio Plate Bypass
12	.005	600		TC-25	684-005	DT6D5	TP408	S-6-005	Audio Coupling
13	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
14	220	500		1FM-32	1468-0002	5W5T2	MC237	MO.5-32	IF Bypass Vol. Cont.
15	51	500		1FM-45	1468-00005	5W5Q5	MC225	MO.5-45	Osc. Grid Capacitor
16	120	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	RF Coupling

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MASON PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 17A per instructions
C	Switch			M26	41	SW-A	" " " " "

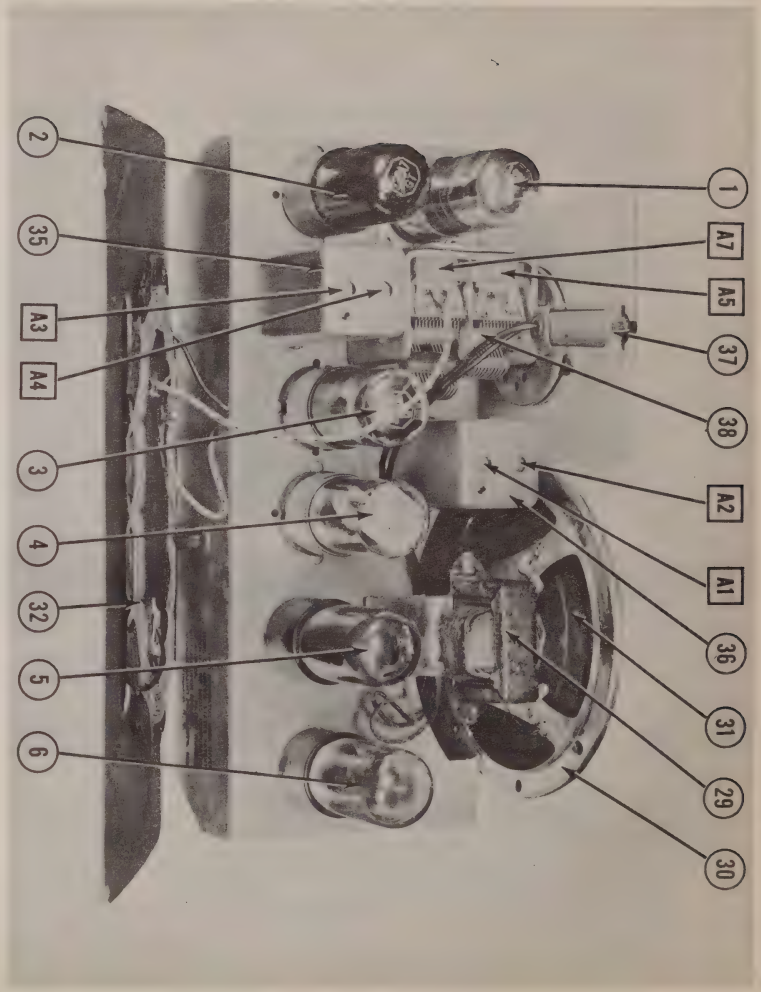
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MASON PART No.	IRC PART No.	IDENTIFICATION CODES
18	4700Ω	½		BTS-4700	Yl.-Vi.-Red RF Plate Load
19	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Converter Grid
20	25KΩ	½		BTS-22K	Red-Grn.-Or. Oscillator Grid
21	3.3 Meg.	½		BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
22	4.7 Meg.	½		BTS-4.7 Meg.	Yl.-Vi.-Grn. AF Grid
23	220KΩ	½		BTS-220K	Red-Red-Yl. AF Plate Load
24	390KΩ	½		BTS-390K	Or.-White-Yl. Output Grid
25	140Ω	½		BW-½-150	Br.-Yl.-Br. Output Cathode
26	1000Ω	1		BTA-1000	Br.-Blk.-Red Filter
27	100Ω	1		BW-1-100	Br.-Blk.-Br. "
28	140Ω	½		BW-½-150	Br.-Yl.-Br. Pilot Light Shunt

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: MASON PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
29	2000Ω	3.4Ω	170Ω	.8Ω		A-3876*	T2S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: MASON PART No.	REPLACEMENT DATA: JENSEN PART No.	REPLACEMENT DATA	INSTALLATION NOTES
	FIELD	VC IMP.		ST-107		
30	PM	3.4Ω		Mod. P5-V		
	CONE DIA.	VC DIA.				
31	4-5/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

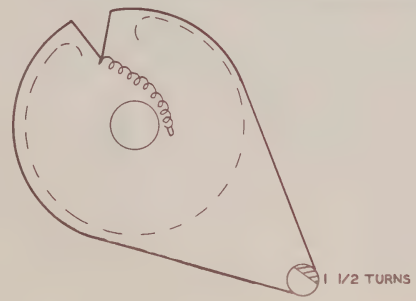
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: MASON PART No.	REPLACEMENT DATA: MEISSNER PART No.
32	Loop Ant.	0Ω	3Ω		
33	Osc. Coil		3.5Ω		14-1040
34	Wave Trap		65Ω		
35	Input IF	20Ω	20Ω		16-6658
36	Output IF	20Ω	20Ω		16-6660

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: MASON PART No.	REPLACEMENT DATA	INSTALLATION NOTES
37	Bayonet	6-8	0.15	Brown			Type 47

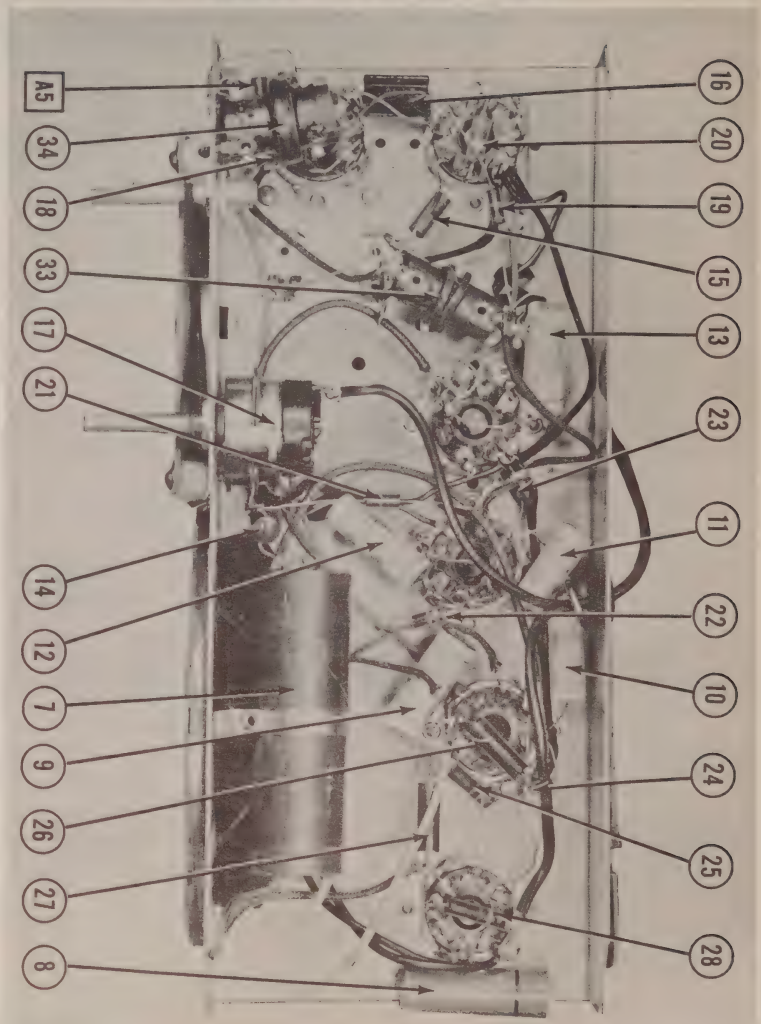
MISCELLANEOUS

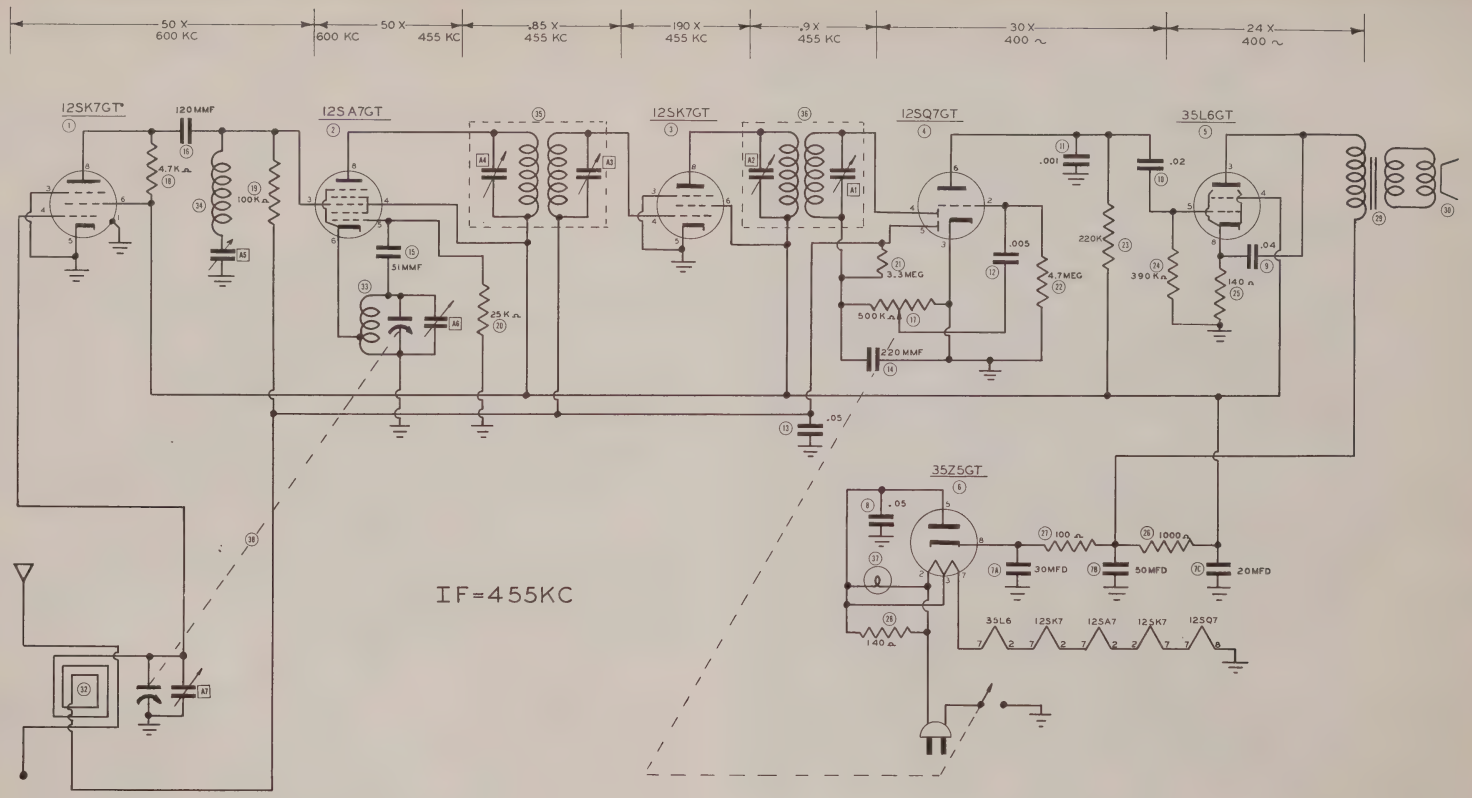
ITEM No.	PART NAME	MASON PART No.	NOTES
38	2 Gang Var. Cap		(32-365 MMF, 31-199 MMF)



DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
1	12SK7GT	0V.	39V.AC	0V.	-75V.DC	0V.	80V.DC	52V.AC	30V.DC
2	12SA7GT	0V.	26V.AC	80V.DC	80V.DC	-3.2V.DC	0V.	39V.AC	-3V.DC
3	12SK7GT	0V.	26V.AC	0V.	-75V.DC	0V.	80V.DC	13V.AC	80V.DC
4	12SQ7GT	0V.	-75V.DC	0V.	-55V.DC	-75V.DC	55V.DC	13V.AC	0V.
5	35L6GT	120V.DC	52V.AC	115V.DC	80V.DC	0V.	80V.DC	86V.AC	4.2 V.DC
6	35Z5GT	117 V.AC	117 V.AC	113V.AC	0V.	113V.AC	125V.DC	86V.AC	125 V.DC

RESISTANCE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
1	12SK7GT	0 Ω	36 Ω	0 Ω	4 MEG.	0 Ω	90 KΩ	47 Ω	95 KΩ
2	12SA7GT	0 Ω	24 Ω	90 KΩ	90 KΩ	24 KΩ	.3 Ω	36 Ω	4 MEG.
3	12SK7GT	0 Ω	24 Ω	0 Ω	4 MEG.	0 Ω	90 KΩ	12 Ω	90 KΩ
4	12SQ7GT	0 Ω	5 MEG.	0 Ω	430 KΩ	4 MEG.	310 KΩ	12 Ω	0 Ω
5	35L6GT	90 KΩ	47 Ω	90 KΩ	90 KΩ	320 KΩ	90 KΩ	77 Ω	115 Ω
6	35Z5GT	105 Ω	105 Ω	102 Ω	INF.	102 Ω	90 KΩ	77 Ω	90 KΩ

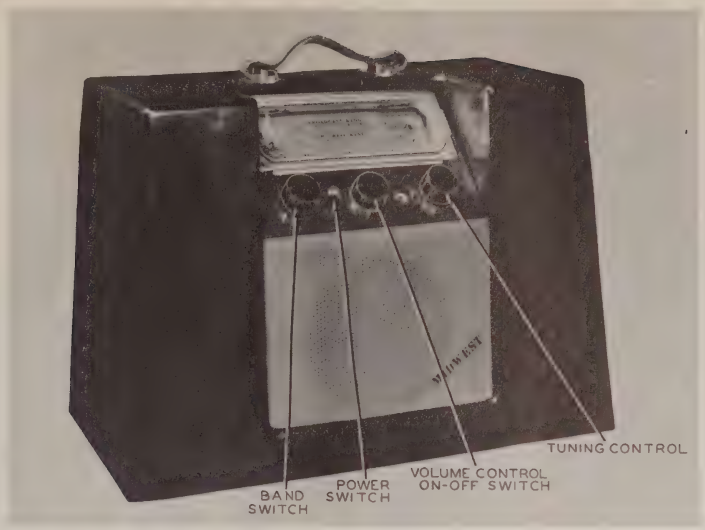
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-18

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. **DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.**
2. **Socket connections are shown as bottom views.**
3. **Measured values are from socket pin to common negative.**
4. **Line voltage maintained at 117 volts for voltage readings.**
5. **Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.**
6. **Volume control at maximum, no signal applied for voltage measurements.**



MIDWEST MODELS P-6, PB-6

TRADE NAME	Midwest, Models P-6, PB-6
MANUFACTURER	Midwest Radio Corp., 909 Broadway, Cincinnati, Ohio
TYPE SET	Three Power Portable 2 Band Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types, 1R5 Converter, 1T4 1st IF Amp., 1T4 2nd IF Amp., 1S5 Det.-AVC-AF, 3S4 Power Output.
POWER SUPPLY	105-125 Volts AC-DC or 9 Volt "A" Battery & 90 Volt "B" Battery in Pack Form (General Battery. 60B-6F6-5 or equiv.)
RATING	.200 Amp. @ 117 Volts AC or 53 MA @ 9.2 Volts DC and 25 MA @ 92 Volts DC
TUNING RANGE—BROADCAST	540-1600KC 200-400KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed and set pointer to left edge of BC band reference line. Use battery power whenever possible. When ac power is used, use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum volume and output of signal generator no higher than is necessary to obtain output reading. If a vacuum tube voltmeter is available it may be connected to the AVC line and used as an output indicator during alignment. 0.6 volts AVC voltage is approximately 50 milliwatts audio power. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05 MFD.	High side to grid (Pin 6) of 1R5. Low side to chassis.	456KC	B	100KC	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If a-c power is used without an isolation transformer, reduce dummy ant. to .001 MFD. to reduce hum modulation.
50 MMFD	High side to ant. post. Low side to chassis.	400KC	C	400KC	"	A5	Adjust for maximum output.
50 MMFD	"	"	"	Tune for maximum output.	"	A6	" " " "
50 MMFD	"	200KC	"	200KC	"	A7	Adjust for maximum output. Repeat last three steps until no further improvement is made.
50 MMFD	"	1400KC	B	1400KC	"	A8	Adjust for maximum output.
50 MMFD	"	"	"	Tune for maximum output.	"	A9	" " " "
50 MMFD	"	600KC	"	"	"	A10	Rock variable and adjust for maximum output.
.05 MFD.	High side to top of volume control Low side to chassis.	1000~ Audio	A		"	A11, A12 A13.	Tune for minimum signal. Repeat using actual range signal.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: MIDWEST PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	1R5	1R5	7AT	
2	1st IF Amp.	1T4	1T4	6AR	
3	2nd IF Amp.	1T4	1T4	6AR	
4	Det.-AVC-AF	1S5	1S5	6AU	
5	Power Amp.	3S4	3S4	7BA	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MIDWEST PART No.	REPLACEMENT DATA: SPRAGUE PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6	30	150	CE-9	UT-301	PRS150-30	BR3015	TC47	M-30-150	Filter
7	30	150	CE-9	UT-301	PRS150-30	BR3015	TC47	M-30-150	"
8	30	150	CE-9	UT-301	PRS150-30	BR3015	TC47	M-30-150	"
9	80	25	CE-8	UHC-102	PRS25-100	BRH251	TC2501	M-100-50	Filament Bypass
10	.01	200		TC-11	484-01	DT4S1	TP421	S-4-01	Line Filter
11	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	Filament Bypass
12	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	" "
13	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	" "
14	.003	200		TC-23	484-003	DT6D3	TP406	S-6-003	Audio Coupling
15	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	Audio Screen Bypass
16	.003	200		TC-23	484-003	DT6D3	TP406	S-6-003	Audio Coupling
17	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	2nd IF Screen Bypass
18	.01	200		TC-11	484-01	DT4S1	TP421	S-4-01	1st IF Screen Bypass
19	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
20	.003	200		TC-23	484-003	DT6D3	TP406	S-6-003	Ant. Coupling
21	50								Range Filter - Cer.
22	50								" " "
23	100								Audio Plate Bypass-Cer.
24	150	500		1FM-315	1468-00015	5W5T15	MC236	M0.5-315	IF Coupling
25	50								Osc. Grid Capacitor-Cer.
26	100	300		1FM-21	1468-001	1W5D1	MC255	M0.3-21	Fixed Ant. Padder

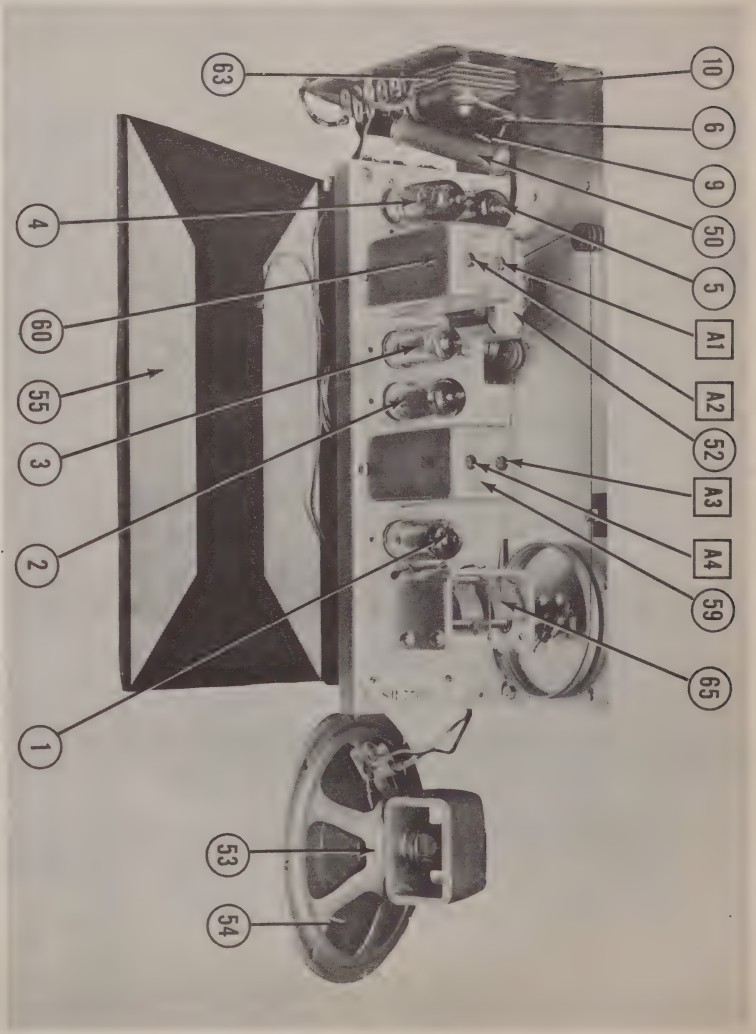
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MIDWEST PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: CLAROSTAT PART No.	INSTALLATION NOTES
27A	1 Meg.	1	RV-4	MR53	D13-137	M-63-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 27A per instructions
C	Switch		" "	M27	42	SW-A2	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MIDWEST PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
28	68KΩ	½		BTS-68K	Blue-Gray-Or. Antenna Loading
29	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
30	82Ω	½		BW-½-82	Gray-Red-Blk. Filament String
31	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Oscillator Grid
32	3.3 Meg.	½		BTS-3.3 Meg.	Br.-Or.-Grn. AVC Network
33	68KΩ	½		BTS-68K	Blue-Gray-Or. 1st IF Screen Dropping
34	33KΩ	½		BTS-33K	Or.-Or.-Or. 1st IF Plate Load
35	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. 2nd IF Grid
36	180Ω	½		BW-½-180	Br.-Gray-Br. Filament String
37	470Ω	½		BTS-470	Yl.-Vi.-Br. 2nd IF Decoupling
38	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AF Grid
39	3.3 Meg.	½		BTS-3.3 Meg.	Or.-Or.-Grn. AF Screen Dropping
40	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AF Plate Load
41	1.6 Meg.	½		BTS-1.5 Meg.	Br.-Blue-Grn. Range Filter Network
42	1.6 Meg.	½		BTS-1.5 Meg.	Br.-Blue-Grn. Range Filter Network

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	MIDWEST PART No.	IRC PART No.	
43	820KΩ	½		BTS-820K	Gray-Red-Yl. Range Filter Network-See Note 1
44	3.3 Meg.	½		BTS-3.3 Meg.	Or.-Or.-Grn. Output Grid
45	82Ω	½		BW-½-82	Gray-Red-Blk. Filament String
46	390Ω	½		BW-½-390	Or.-White-Blk. Filament String
47	1180Ω	6		" "	" "
48	470Ω	1		BTA-470	Yl.-Vi.-Br. Bleeder
49	180Ω	½		BW-½-180	Br.-Gray-Br. Filter
50	68Ω	2		BW-2-68	Blue-Gray-Blk. Surge Limiter
51	180Ω	½		Bw-½-180	Br.-Gray-Br. Decoupling

Note 1 - Some models may use 3.3 Meg. in this application. Replacement same as Item #32.

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		MIDWEST PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
52	6800Ω	3.5Ω	300Ω	.5Ω	TA-1	A-2578	T22347		

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			MIDWEST PART No.	JENSEN PART No.		
53	FIELD PM	VC IMP. 3.5Ω	SP-3-2	ST-107 Mod. PS-V		
54	CONE DIA. 4-3/4"	VC DIA. 1/2"	NOT READILY	REPLACEABLE-Use Complete Speaker Unit		

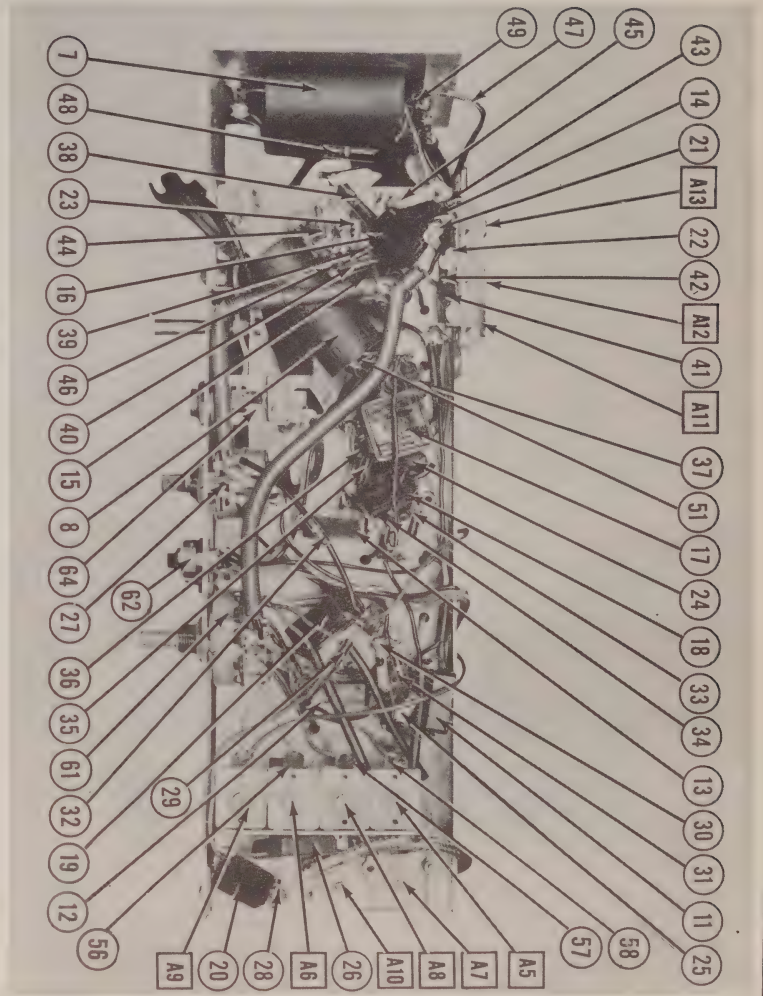
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	MIDWEST PART No.	MEISSNER PART No.	
55	Loop Ant.		2.3Ω			
56	LF Ant. Coil		22Ω			
57	BC Osc. Coil	1Ω	6Ω			
58	LF Osc. Coil	3Ω	12Ω			
59	Input IF	32Ω	24Ω	TR-2	16-6658	
60	Output IF	29Ω		TR-3	16-6670	

MISCELLANEOUS

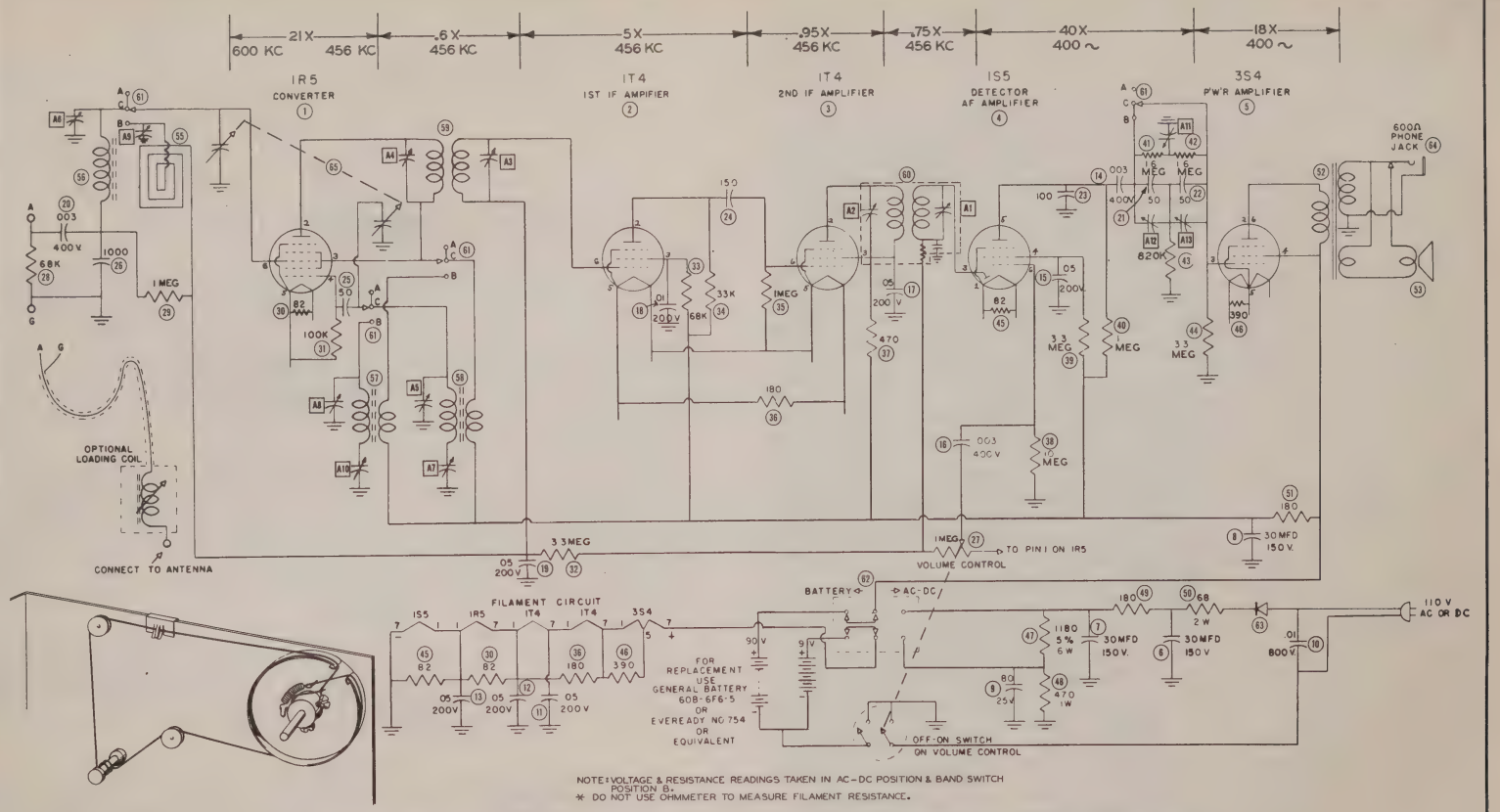
ITEM No.	PART NAME	MIDWEST PART No.	NOTES
61	Range Filter & Bandswitch	SR-2	
62	AC-DC-Batt. Sw.	SS-1	
63	Selenium Rect.	CR-1	
64	Headphone Jack	JP-2	
65	2 Gang Var. Cap.	CV-1	(12-348 MMF, 9-258 MMF)
A7, A10	Padder Strip	CV-10	Long Wave Osc. Padder BC Osc. Padder
A11, A12, A13	Trimmer Strip	CV-12	Range Filter Adjustments

CHASSIS—BOTTOM VIEW



MIDWEST MODELS P-3, P8-6

MIDWEST MODELS P-3, P8-6



Dial Stringing

IF=456KC

NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN AC-DC POSITION & BAND SWITCH POSITION 8.
* DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	1R5	1.6V.DC	90V.DC	90V.DC	.6 V.DC	1.6 V.DC	0V.	3.4V.DC
2	1T4	3.4V.DC	60V.DC	65V.DC	0V.	3.4V.DC	0V.	4.9V.DC
3	1T4	4.9V.DC	85 V.DC	85V.DC	0V.	4.9V.DC	.25V.DC	6V.DC
4	1S5	1.6V.DC	0V.	.3V.DC	20V.DC	10 V.DC	-1V.DC	0V.
5	3S4	6 V.DC	90V.DC	0V.	90 V.DC	7.4V.DC	90V.DC	8.8V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	1R5	*	1350Ω	1350Ω	96 KΩ	*	4 MEGΩ	*
2	1T4	*	30 KΩ	62 KΩ	INF.	*	4 MEGΩ	*
3	1T4	*	1800Ω	1800Ω	INF.	*	900 KΩ	*
4	1S5	*	INF.	910 KΩ	3.3MEG.	910 KΩ	10 MEGΩ	*
5	3S4	*	1400Ω	3.3MEG.	1300Ω	*	1400Ω	*

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS 474-19

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 1½-volt battery bias substituted for measurement.

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Line voltage maintained at 117 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.

NEWCOMB
MODEL H-10

NEWCOMB MODEL H-10

TRADE NAME	Newcomb, Model H-10
MANUFACTURER	Newcomb Audio Products, Los Angeles, Calif.
TYPE SET	AC Operated 2 Channel Audio Amplifier
TUBES (FIVE)	Types, 6SC7 Mike Amp. - Phase Inverter, 6SJ7 AF Amp., (2) 6V6GT Power Output, 6X5GT Rectifier.
POWER SUPPLY	105-125 Volts AC RATING .400 Amp. @ 117 Volts AC

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SC7	0V.	75 V.DC	-3V.DC	-4V.DC	77 V.DC	0V.	3.2 V.AC	3.2 V.AC
2	6SJ7	0V.	3.2 V.AC	.02 V.DC	-35V.DC	.02 V.DC	12 V.DC	3.2 V.AC	60 V.DC
3	6V6GT	0V.	3.2 V.AC	295 V.DC	290 V.DC	0V.	180 V.DC	3.2 V.AC	20 V.DC
4	6V6GT	0V.	3.2 V.AC	295 V.DC	290 V.DC	0V.	0V.	3.2 V.AC	20 V.DC
5	6X5GT	0V.	3.2 V.AC	255 V.AC	0V.	255 V.AC	0V.	3.2 V.AC	305 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SC7	0Ω	625KΩ	10MEG.	10MEG.	640KΩ	0Ω	∞Ω	∞Ω
2	6SJ7	0Ω	∞Ω	97Ω	10MEG.	97Ω	4MEG.	∞Ω	1MEG.
3	6V6GT	0Ω	∞Ω	275KΩ	275KΩ	530KΩ	300KΩ	∞Ω	275Ω
4	6V6GT	0Ω	∞Ω	275KΩ	275KΩ	570KΩ	15KΩ	∞Ω	275Ω
5	6X5GT	0Ω	∞Ω	240Ω	INF.	230Ω	INF.	∞Ω	275KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: NEWCOMB PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mike Amp.-Phase Inv.	6SC7	6SC7	8S	
2	AF Amp.	6SJ7	6SJ7	8N	
3	Power Output	6V6GT	6V6GT	7AC	
4	Power Output	6V6GT	6V6GT	7AC	
5	Rectifier	6X5GT	6X6GT	6S	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: NEWCOMB PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6	8	475		UT-85		BR850	TC82	M-8-525	Filter
7	8	475		UT-85		BR850	TC82	M-8-525	"
8	8	475		UT-85		BR850	TC82	M-8-525	"
9	25	50		TA-525	PRS50-25	BR255	TC36	M-25-50	Cath. Bypass
10	.1	600		TC-1	684-.1	DT6P1	TP418	S-6-1	Audio Coupling
11	.1	400		TC-1	484-.1	DT4P1	TP428	S-4-1	Audio Screen Bypass
12	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
13	.02	600		TC-12	684-02	DT6S1	TP412	S-6-02	" "
14	.1	600		TC-1	684-.1	DT6P1	TP418	S-6-1	" "
15	.001	600		TC-21	684-001	DT6D1	TP404	S-6-001	Tone Compensation
16	.02	600		TC-12	684-02	DT6S2	TP412	S-6-02	Audio Coupling
17	.02	600		TC-12	684-02	DT6S2	TP412	S-6-02	Mic. Coupling
18	.004	600		TC-24	684-004	DT6D4	TP407	S-6-004	Tone Compensation
46	50	500		1FM-45	1468-00005	5W5Q5	MC225	MO.5-45	Audio Plate Bypass *

* Not used in all models.

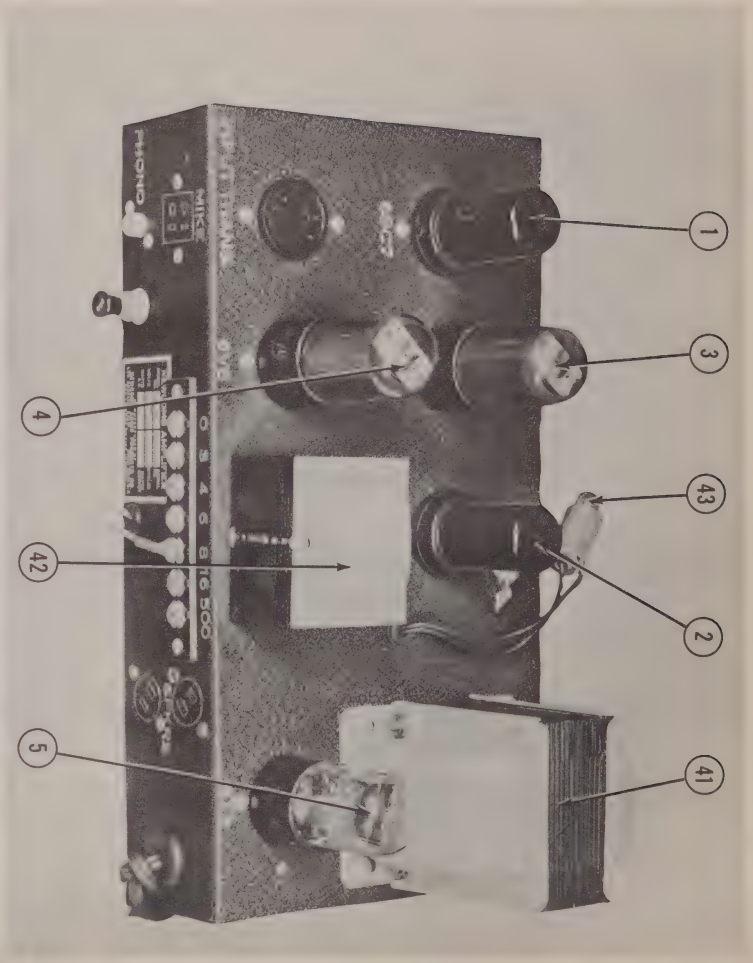
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: NEWCOMB PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19A	500KΩ	1	RV-15	MR48	D13-133	M-60-Z	Mike Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 19A per instructions
20A	500KΩ	1	RV-15	MR48	D13-133	M-60-Z	Phono Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 20A per instructions
21A	2 Meg.	1	RV-7				Tone Control
B	Shaft		Not Req.				Attach to 21A per instructions

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: NEWCOMB PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
22	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Tone Compensation
23	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue Mike Amp. Grid
24	270KΩ	½		BTS-270K	Red-Vi.-Yl. Mike Amp. Plate Load
25	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue Phase Inverter Grid
26	270KΩ	½		BTS-270K	Red-Vi.-Yl. Phase Inverter Plate Load
27	330KΩ	½		BTS-330K	Or.-Or.-Yl. Isolation
28	330KΩ	½		BTS-330K	Or.-Or.-Yl. "
29	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue Audio Grid
30	100Ω	½		BW-½-100	Br.-Blk.-Br. Audio Cathode
31	3.3 Meg.	½		BTS-3.3 Meg.	Or.-Or.-Grn. Audio Screen Dropping
32	560KΩ	½		BTS-560K	Grn.-Blue-Yl. Audio Plate Load
33	56KΩ	½		BTS-56K	Grn.-Blue-Or. Feedback
34	560KΩ	½		BTS-560K	Grn.-Blue-Yl. Output Grid

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	NEWCOMB PART No.	IRC PART No.	
36	18KΩ	½-W-10%		BTS-18K	Br.-Gray-Or. Output Grid
38	560KΩ	½-W-10%		BTS-560K	Grn.-Blue-Yl. Output Grid
37	300Ω	5-W-5%		BW-5-330	Or.-Blk.-Br. Output Cathode
33	2700Ω	½-W-10%		BTS-2700	Red-Vi.-Red Filter
39	10MΩ	½-W-10%		BTS-100K	Br.-Blk.-Yl. Voltage Dropping
40	100KΩ	½-W-10%		BTS-100K	Br.-Blk.-Yl. Output Grid-See Note 1

Note 1 - Not used in all models.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	NEWCOMB PART No.	STANCOR PART No.	THORDARSON PART No.	
41	117V AC @ .400A	510V CT @ .060A	5.9V AC @ 2.2A			P-6011#	T22R30$	#Use universal mounting bracket. $Drill new mounting holes.

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		NEWCOMB PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
42	6600Ω CT	3Ω 4Ω 6Ω 8Ω 16Ω 500Ω	700Ω CT	1Ω 1.1Ω 1.4Ω 1.6Ω 2.3Ω 4.9Ω		A-3852	T22S66		$Drill new mounting holes.

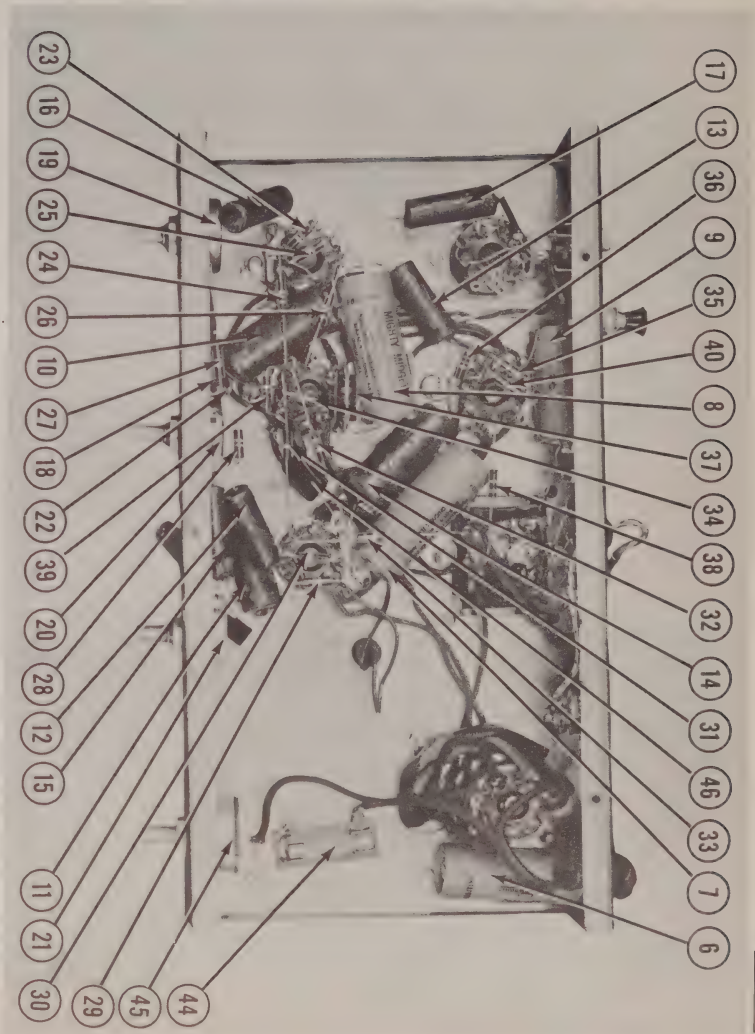
DIAL LIGHT

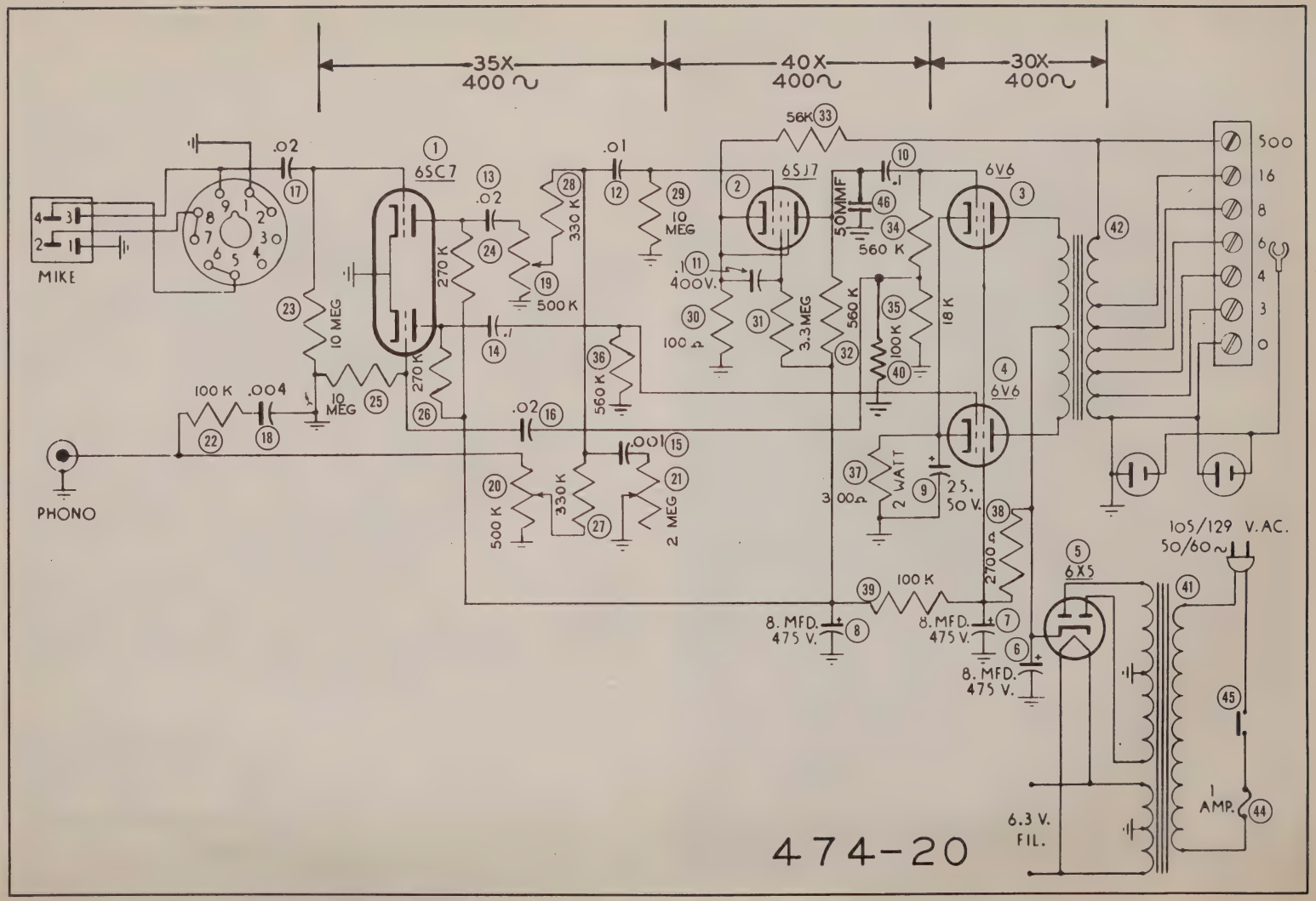
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					NEWCOMB PART No.		
13	Bayonet	6-8	0.15	Brown			Type 47

MISCELLANEOUS

ITEM No.	PART NAME	NEWCOMB PART No.	NOTES
44	Fuse		1 Amp.
45	On-Off Switch	SY52	SPST

CHASSIS—BOTTOM VIEW

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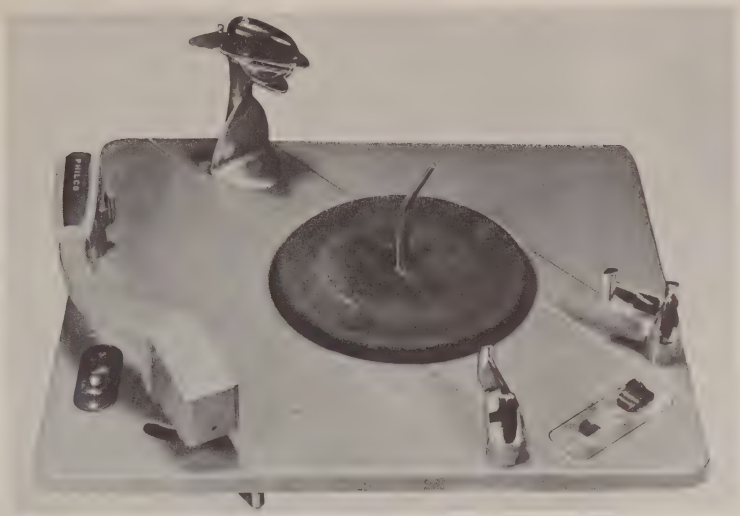
PHILCO
MODELS D-10, D-10A



MODEL D-10A

MODEL D-10

PHILCO
MODELS D-10, D-10A

GENERAL INFORMATION

These changers are designed to play up to twelve 10-inch or ten 12-inch records, not intermixed. The last record will be repeated until the changer is turned off. Manual operation is provided by a lever which disengages the trip mechanism. Power supply is 105-125 volts at 60 cycles. The D-10 uses a crystal pickup, while the D-10A uses a dynamic unit.

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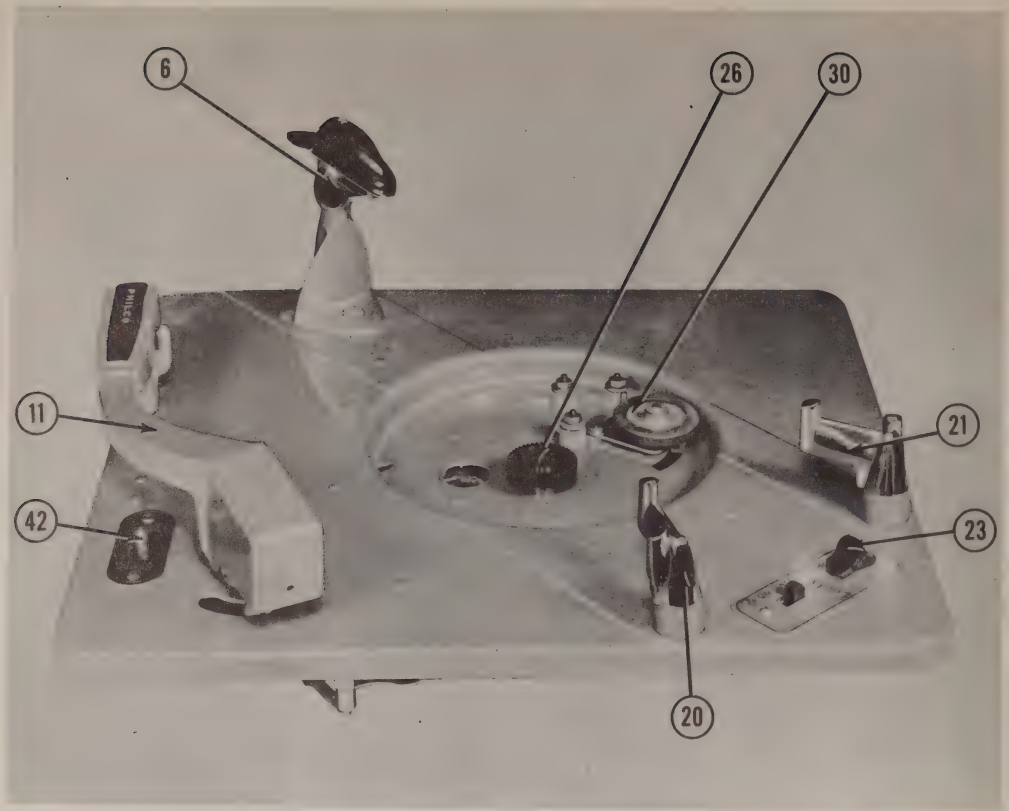


TOP VIEW LESS TURNTABLE

THE CHANGE CYCLE

At the end of a record, the eccentric groove causes the tone arm to oscillate back and forth. As the arm moves away from the spindle, the pawl on the trip lever assembly (53) straightens, pushing against the ratchet lever assembly (47). As this lever moves, the gear segment (56A) is allowed to fall against the pinion gear (43), which is driven by the turntable. The cam (56) now turns, controlling the various functions of the change cycle.

I. The tone arm elevating lever (73) moves out, forcing the pickup up clear of the record. The tone arm elevating system consists of two levers, 73 and 69, coupled by a spring (72) so the mechanism will not be damaged by anything which might prevent the tone arm from rising.

II. The separator lever assembly (74) begins to move the separator shelf (6).

III. The tone arm actuating lever (68) contacts the stud on the trip lever assembly (53), moving the tone arm out clear of the record stack.

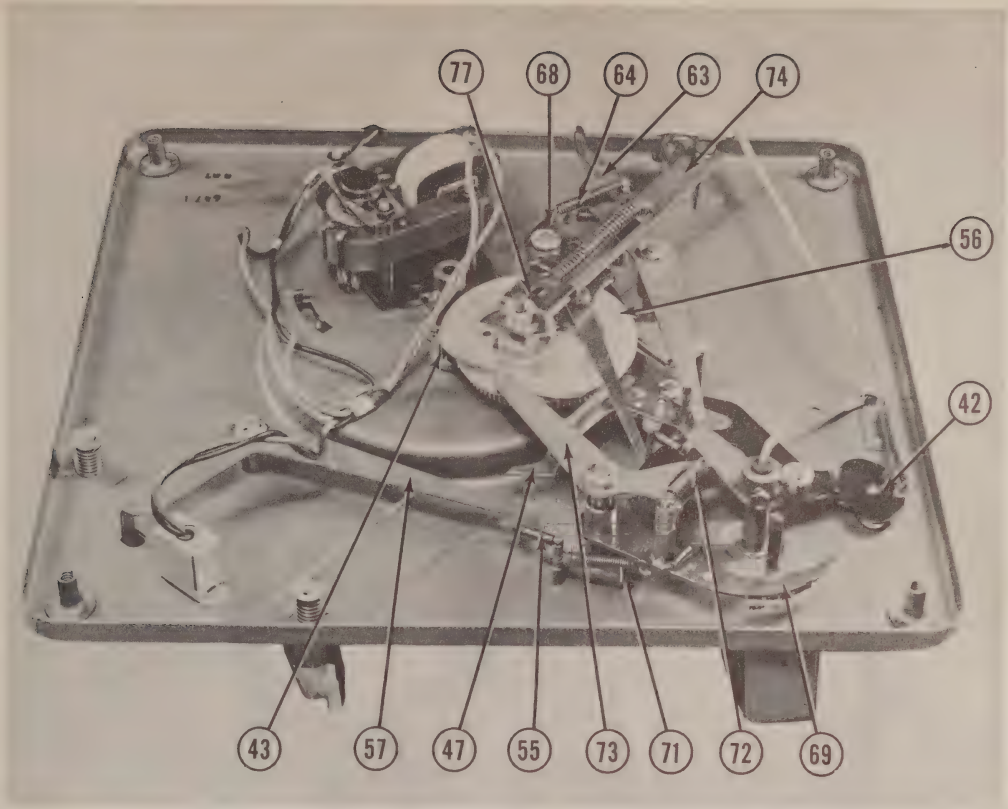
IV. The tone arm locating lever (63) is moved back against spring tension.

V. As the main cam continues to rotate, the separator shelf moves to allow a record to drop. The record slides down the inclined portion of the spindle (13) and falls clear of the record supports (20 and 21). The separator shelf then begins to move back to its normal position.

VI. The tone arm actuating lever now begins to move back, allowing the tone arm locator lever to bring the tone arm back toward the set-down point.

VII. As the main cam nears completion of its rotation, the ratchet lever assembly (47) pushes against the stud on the gear segment (56A), pushing this segment toward the center of the cam, away from the pinion gear.

VIII. The tone arm elevating assembly (73) moves back toward the center of the cam, allowin the needle to come down on the record.



BOTTOM VIEW

ADJUSTMENTS

SET-DOWN POINT

The 12-inch set-down point is controlled by the long stud (74A) in the separator lever assembly. This stud is staked in place and no attempt should be made to move it. To adjust the 12-inch set-down point, the changer should be run through its cycle, using a standard 12-inch record, and stopped just before the needle touches the record. The set-down point should be 1/8" in from the edge of the record. To adjust, loosen the set screws in the trip arm assembly (53) and hold the trip arm lightly against the tone arm locator lever (63), while moving the tone arm to the correct position. Tighten the flat-headed set screw and cycle the changer to be sure the adjustment is correct before tightening the cone pointed screw. A clearance of three to five thousandths should be left for end play of the tone arm shaft.

After the 12-inch set-down point is adjusted, the 10-inch set-down should be checked. Adjustment is made by turning the eccentric bushing (62.) After adjustment is completed, the lock nut (61) should be tightened to prevent accidental turning of the eccentric.

TONE ARM HEIGHT

With no record on the turntable, and with the changer out of cycle, the needle should clear the base plate by 3/32". Adjustment may be made by bending the bracket on the tone arm shaft (15).

Tone arm height during the change cycle is controlled by an eccentric stud on the upper tone arm lift lever (69).

With no record on the turntable and with the motor off, trip the changer and turn the turntable manually one and one-quarter turns. At this point the distance from the needle to the turntable should be 1 1/4". Adjustment may be made by turning the eccentric stud.

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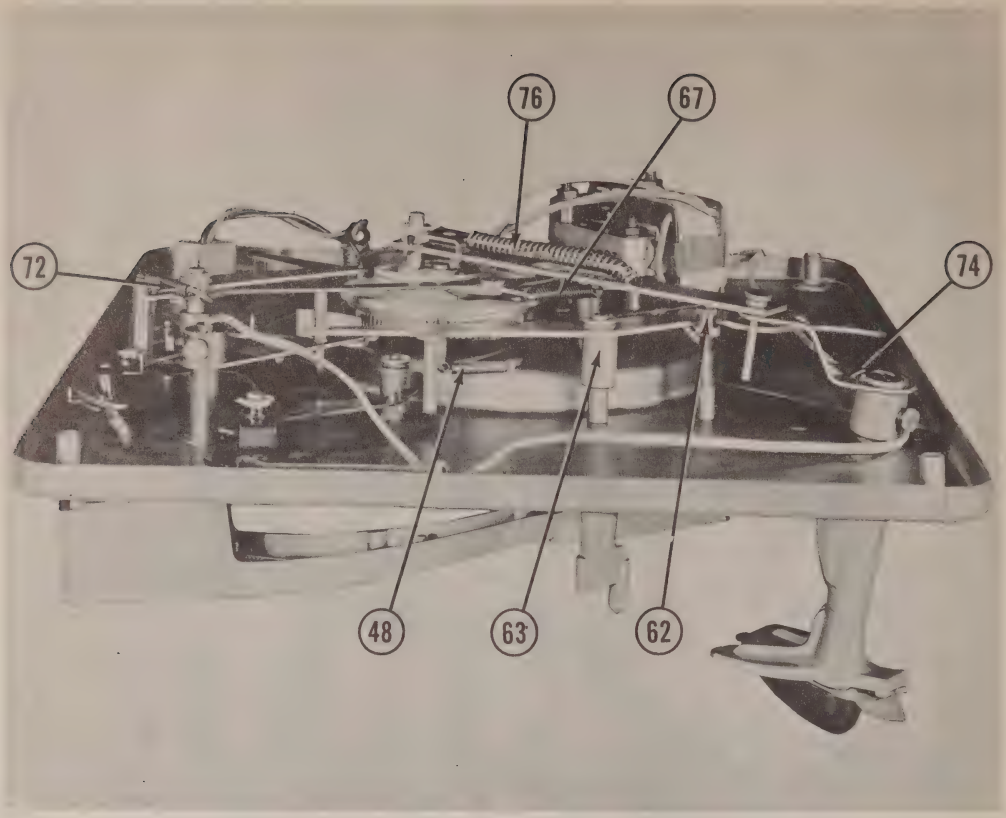


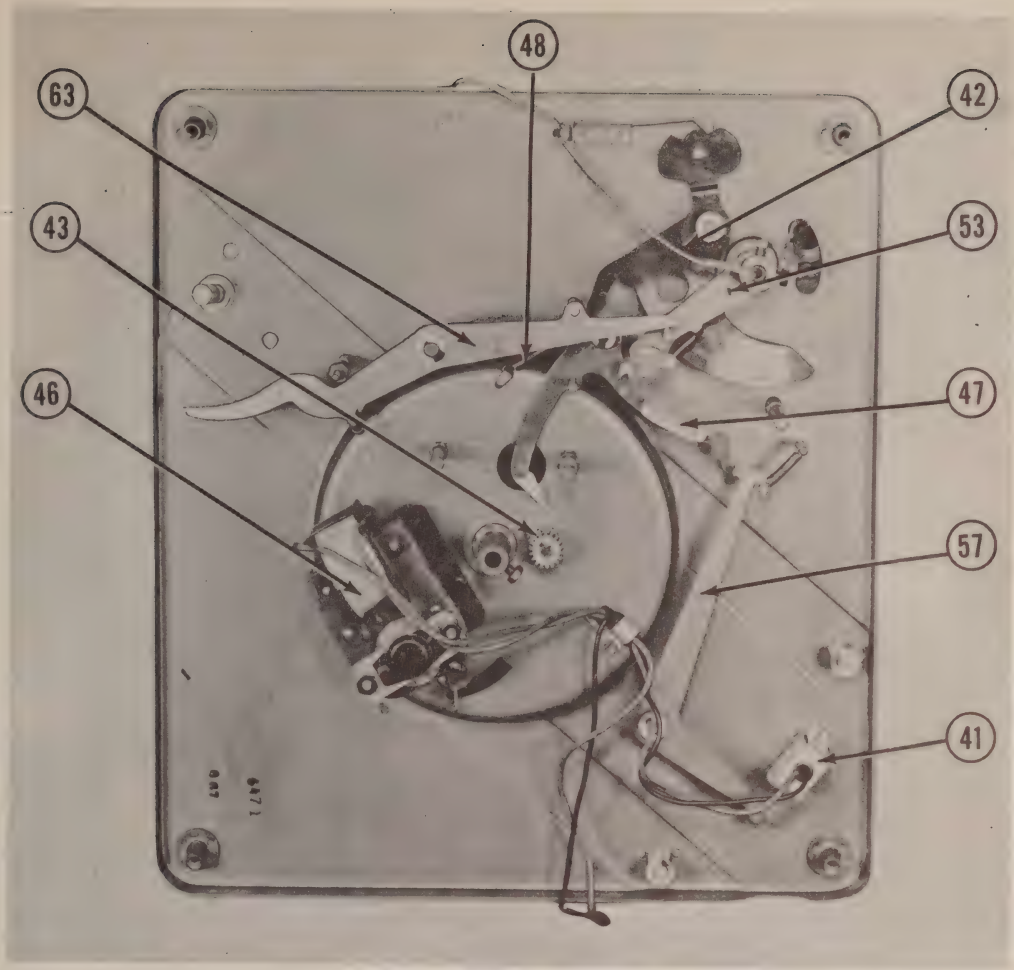
SIDE VIEW

SPINDLE ALIGNMENT

The spindle should be adjusted to point half-way between the record support posts. The spindle is held in place by a set screw in the collar just below the base plate. After aligning the spindle, and before tightening the set screw, raise the spindle approximately 1/32″ from its seated position. The height of the spindle may be adjusted to some extent to remedy record dropping faults. However, if the spindle is too low, binding will result, while if it is too high, the cleats may damage the bottom record.

REPLACING NEEDLE IN DYNAMIC PICKUP

The dynamic pickup used in model D-10A uses a special needle, part number 35-2638. Needles of larger diameter must not be used. This needle seats in a rubber socket and no tools are necessary for its replacement. The old needle should be pulled straight out. Do not pull sideways or the unit may be damaged. Insert the new needle through the rubber washer and move it around gently to locate the hole in the coil assembly. Then push the needle straight in. It may be necessary to move the needle slightly to locate the hole in the rubber socket. After the needle is seated properly twist it so the bend is in the direction of record rotation.



BOTTOM VIEW LESS CAM AND SEPARATOR LEVER

LUBRICATION

Use light grease similar to vaseline on the following parts:

1. Idler wheel bearing
2. Turntable bearing and balls
3. Turntable hub and composition drive gear (26)
4. Record separator post (6)
5. Elevating lever (69) at contact with tone arm lift rod
6. Locating lever (63) and tone arm actuating lever (68) at contact with stud on trip arm (53)
7. Detent spring on manual lever
8. Manual lever (42) at contact with trip-pawl stud
9. Separator lever (74) at ends
10. Main cam (56)
11. Pinion gear (43)
12. All shafts except tone arm
13. Record supports
14. All studs with moving parts

Use light machine oil on the following parts:

1. Motor felts
2. Idler wheel lever assembly (36)

Use very light oil on the tone arm shaft (15). Do not lubricate the following parts:

1. Separator assembly (2, 4, and 6) except bearing surface of shaft
2. Trip pawl (part of 53)
3. Ratchet surface of 47
4. Segment gear (56A)

PARTS LIST

No.	Part No.	DESCRIPTION
1	1W-14134	No. 6-32 x 11/16" Phillips head machine screw
2	56-4237	Separator cap
3	56-2658	Pickup unit case (D-10A)
4	56-3412	Separator blade
5	76-1622 35-2643	Pickup unit (D-10A) Crystal cartridge (D-10)
6	76-2367	Separator shelf
7		No. 4-40 x 1/4" RHMS
7A		No. 3-56 x 1/4" RHMS
8		Pickup cover plate (D-10A)
9		No. 8-32 x 1/4" RHMS
10		Pickup mounting spacer (D-10A)
11	35-2650 35-2642	Tone arm (D-10A) Tone arm (D-10)
12	56-2838 56-2839	Pivot-locking screw Pivot-point screw
13	56-2799	Spindle
14	56-2928	Counter weight
15	76-1792	Tone arm shaft assembly
16	5W-2017	Ball bearing
17		No. 8-32 x 1 1/4" RHMS
18	35-3065	Turntable
19		Flat washer 1/2" O.D., 5/16" I.D.
20	76-1776	Support lever (L.H.)
21	76-1775	Support lever (R.H.)
22	56-2800	Bearing washer
23		Reject knob
24		No. 4-40 x 3/16" RHMS
25	56-2794	Nameplate
26	76-1789	Gear assembly
27	5W-2017	Ball bearing (eleven required)
28	56-2802	"C" washer
29	56-2886	Flat washer
30	76-2053	Idler wheel
31	1W-19986	No. 6-32 hex nut
32	1W-35045	Lockwasher
33	1W-52132	Flat washer
34	56-2891 54-4239	Spacer Rubber grommet
35	56-2865	Tension spring
36	318-4316	Idler mounting plate
37	35-5078	Base plate
38	56-2792	Compression spring
39	1W-52505	Flat washer

No.	Part No.	DESCRIPTION
40	56-2793	"C" washer
41	42-1750	Switch
42	76-1791 56-2823	Manual lever assembly Detent spring
43	56-2807	Pinion gear
44	56-2806	Pin
45	1W-52132	Flat washer
46	35-1304-2	Motor
47	76-1786	Ratchet lever assembly
48	56-2803	Tension spring
49	56-2801	Washer
50	56-2802	"C" Washer
51		Flat washer
52	56-2793	"C" washer
53	76-1781	Trip lever assembly
53A	56-2851	Tension spring
54	56-2865	Tension spring
55	56-2795	Tension spring
56	76-1784	Cam assembly
56A		Segment gear
57	76-1779	Reject lever assembly
58		Flat washer
59	56-2793	"C" washer
60	56-2795	Tension spring
61		No. 8-32 hex nut
62	56-3023	Eccentric bushing
63	76-1788	Tone arm locating lever assembly
64	56-3413	Tension spring
65		Flat washer
66	56-2793	"C" washer
67	56-2796	Tension spring
68	76-1787	Tone arm actuating lever assembly
69	76-2050	Tone arm elevating lever (upper)
70		Tension spring
71	56-2796	Tension spring
72	56-2805	Tension spring
73	76-1785	Tone arm locating lever (lower)
74	76-1783	Separator lever assembly
75		Flat washer
76	56-2797	Compression spring
77	56-2798	Separator lever slide
78		Sleeve
79	56-2793	"C" washer

PONTIAC MODEL 984171

TRADE NAME	Pontiac, Model 984171
SUPPLIER	Pontiac Motor Div., General Motors Corp., Pontiac, Mich.
TYPE SET	Battery Operated Automobile Superheterodyne Receiver
TUBES (SEVEN)	Types, 7A7 RF Amp., 7B8 Osc.-Mod., 7E7 Det.-AVC-IF, 7F7 AF-Phase Inverter, (2) 7C5 Power Output, 0Z4 Rectifier.
POWER SUPPLY	6 Volt Storage Battery
TUNING RANGE—BROADCAST	540-1615KC RATING 6.6 Amp. @ 6.3 Volts DC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed, loosen dial cord drum and set pointer to last reference mark at low frequency end of dial. Make sure that dial cord drum does not rub chassis. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to pin 6 (grid) of 7B8. Low side to chassis.	260KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
65 MMFD.	High side to ext. ant. terminal. Low side to chassis.	1615KC	"	"	A5	" " " "
65 MMFD.	"	1400KC	Tune for maximum output.	"	A6,A7	" " " "
65 MMFD.	"	600KC	"	"	A8	Rock variable and adjust for maximum output. Repeat last three steps until no further improvement can be made. After receiver is installed in car, tune in weak station near 1400KC and adjust A7 for maximum volume.

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: PONTIAC PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	7A7	7A7	8V	
2	Osc.-Converter	7B8	7B8	8X	
3	Det.-AVC-IF Amp	7E7	7E7	8AE	
4	AF-Phase Inv.	7F7	7F7	8AC	
5	Power Output	7C5	7C5	6AA	
6	Power Output	7C5	7C5	6AA	
7	Rectifier	0Z4	0Z4	4R	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: PONTIAC PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
8A	10	400	7238830	EL-353	AF44J	UP4CJ13	FP339	DY-313	▲ Filter
B	15	400							■ "
C	20	25			FRG25-25				Cath. Bypass
9	.006	1600	7240906	TR-26	2089-006	MD16D6	OW344	TM-16-006	Buffer
10	.001	1600	7240905	TR-21	1684-001	MD16D1	OW341	TM-16-001	Output Plate Bypass
11	.01	600	1208600	TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
12	.02	600	1212099	TC-12	684-02	DT6S2	TP412	S-6-02	" "
13	.00075	400	7240738		1468-00075				Output Grid Bypass
14	.005	800	7230912	TC-25	684-005	DT6D5	TP408	S-6-005	Tone Compensation
15	.01	600	1206600	TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
16	.005	800	7230912	TC-25	684-005	DT6D5	TP408	S-6-005	Tone Compensation
17	.05	600	7230592	TC-15	684-05	DT6S5	TP415	S-6-05	AVC Filter
18	.02	600	1212099	TC-12	684-02	DT6S2	TP412	S-6-02	Det. Cath. Bypass
19	.05	600	7230592	TC-15	684-05	DT6S5	TP415	S-6-05	Cath. Bypass
20	.05	600	7230592	TC-15	684-05	DT6S5	TP415	S-6-05	Screen Bypass
21	500	500	1207636	1FM-35	1468-0005	5W5T5	MC245	M0.5-35	Output Grid Bypass
22	15	500	7238891	MS-415	1468-00001	5W5Q1	MC215	M0.5-41	AVC Coupling
23	600	500		MS-36		1W5T6		M0.5-36	Fixed Padder
24	24								Osc. Grid Capacitor Cer.
25	12		7242450						Fixed Trimmer Cer.

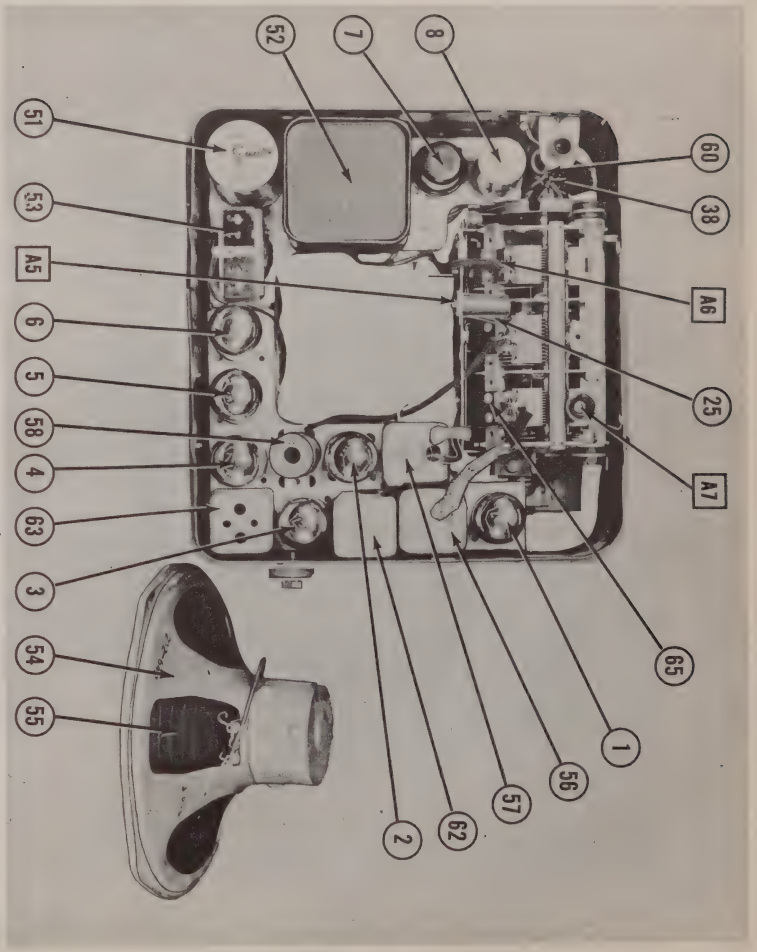
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: PONTIAC PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
26	1 Meg.	1	7242017				Tone switch, volume control and off-on switch. This is a 3 section unit operated by concentric shafts.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: PONTIAC PART No.	IRC PART No.	IDENTIFICATION CODES
27	56KΩ	½	7236248	BTS-56K	Grn.-Blue-Or. Oscillator Grid
28	220Ω	½		BW-½-220	Red-Red-Br. RF Cathode-See Note 1
29	2.7 Meg.	½	7241614	BTS-2.7 Meg.	Red-Vi.-Grn. AVC Network
30	15KΩ	2	7233653	BT-2-15K	Br.-Grn.-Or. Screen Dropping
31	1200Ω	½	1211038	BTS-1200	Br.-Red-Red IF Cathode
32	1 Meg.	½	1209885	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
33	1 Meg.	½	1209885	BTS-1 Meg.	Br.-Blk.-Grn. AVC Load
34	1 Meg.	½	1209885	BTS-1 Meg.	Br.-Blk.-Grn. Detector Delay Network
35	330KΩ	½	1214557	BTS-330K	Or.-Or.-Yl. Diode Load
36	82KΩ	½	1214554	BTS-82K	Gray-Red-Or. Tone Compensation
37	39KΩ	½	1213480	BTS-39K	Or.-White-Or. Tone Compensation
38	47KΩ	½	1214553	BTS-47K	Yl.-Vi.-Or. Tone Compensation
39	3900Ω	½	1214546	BTS-3900	Or.-White-Red AF Cathode
40	220KΩ	½	1214555	BTS-220K	Red-Red-Yl. AF Plate Load

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	PONTIAC PART No.	IRC PART No.	
41	3900Ω	½	1214546	BTS-3900	Or.-White-Red Phase Inverter Cathode
42	100KΩ	½	1209883	BTS-100K	Br.-Blk.-Yl. Phase Inverter Grid
43	220KΩ	½	1214555	BTS-220K	Red-Red-Yl. Phase Inverter Plate Load
44	220KΩ	½	1214555	BTS-220K	Red-Red-Yl. Output Grid
45	220KΩ	½	1214555	BTS-220K	Red-Red-Yl. Output Grid
46	330Ω	2	7239312	BTA-330	Or.-Or.-Br. Output Cathode-See Note 3
47	5600Ω	2		BT-2-5600	Grn.-Blue-Red Filter
48	2700Ω	2	7240917	BT-2-2700	Red-Yl.-Red Filter
49	220Ω	1	7237994	BW-1-220	Red-Red-Br. Hash Suppressor
50	100KΩ	½	1209883	BTS-100K	Br.-Blk.-Yl. Feedback-See Note 2

Note 1 - Some models use 100Ω in this application.
Note 2 - Some models use a 27KΩ resistor in this application.
Note 3 - Models using dynamic speaker use 820Ω 2 W (Part No. 7242807) in this application.

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA			INSTALLATION NOTES
				PONTIAC PART No.	MALLORY PART No.	RADIART PART No.	
51	Interrupter	6.3	115~	8639	870	5335	Original Part #7238829

TRANSFORMER (VIBRATOR)

ITEM No.	RATING				REPLACEMENT DATA			INSTALLATION NOTES
	PRI.	SEC. 1	SEC. 2	SEC. 3	PONTIAC PART No.	STANCOR PART No.	THORDARSON PART No.	
52	5.4Ω LC @ 1.8A	550V CT @ .06A			7241172	P-4082*#	T22R23*	-Drill mounting holes. #Readjust value of buffer condenser if necessary.

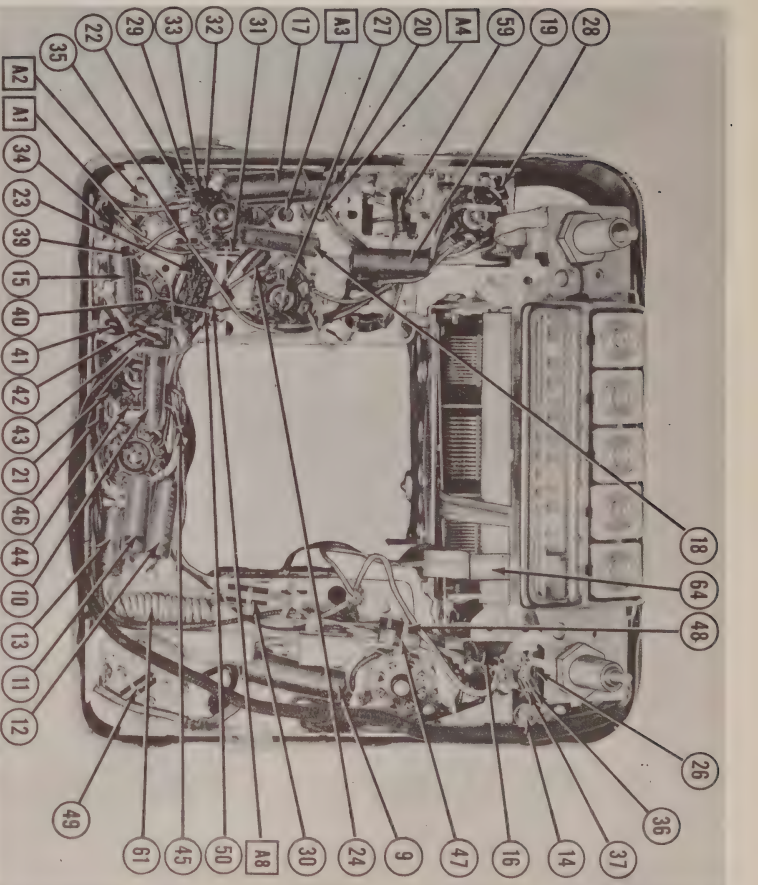
TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		PONTIAC PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
53	20,000Ω CT	3.2Ω	400Ω CT	.3Ω	7240453	A-3823†	T22S48		†Bend and file mounting tabs to duplicate original. Solder may be used to strengthen installation.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			PONTIAC PART No.	JENSEN PART No.		
54A	FIELD PM	VC IMP. 3.2Ω	7241120	CT-115 Mod. PG-V		
B	5.7Ω		7242532			Alternate Dynamic Speaker
55	CONE DIA. 7"	VC DIA. 3/4"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

CHASSIS—BOTTOM VIEW



VOLTAGE READINGS

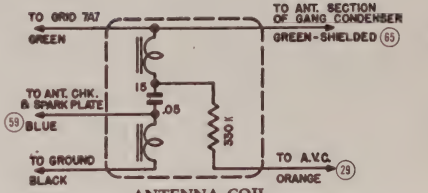
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7A7	6.3V.DC	235V.DC	100V.DC	3.4V.DC	0V.	0V.	3.4V.DC	0V.
2	7B8	0V.	235V.DC	100V.DC	1.8V.DC	100V.DC	0V.	3.4V.DC	6.3V.DC
3	7E7	6.3V.DC	235V.DC	1.7V.DC	0V.	100V.DC	0V.	5.2V.DC	0V.
4	7F7	6.3V.DC	1.6V.DC	125V.DC	0V.	0V.	125V.DC	1.8V.DC	0V.
5	7C5	6.3V.DC	270V.DC	235V.DC	0V.	0V.	0V.	15V.DC	0V.
6	7C5	6.3V.DC	270V.DC	235V.DC	0V.	0V.	0V.	15V.DC	0V.
7	0Z4	0V.	0V.	320V.AC	0V.	320V.AC	0V.	0V.	280V.DC

RESISTANCE READINGS

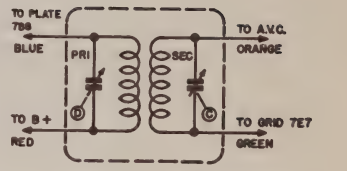
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7A7	.3Ω	1.3MEG.	1.3MEG.	200Ω	0Ω	1.35MEG.	200Ω	0Ω
2	7B8	0Ω	1.3MEG.	1.3MEG.	55 KΩ	1.3MEG.	1.1MEG.	200Ω	.3Ω
3	7E7	.3Ω	1.3MEG.	260 KΩ	750 KΩ	1.3MEG.	1.1MEG.	1 KΩ	0Ω
4	7F7	.3Ω	3.8 KΩ	1.5MEG.	100 KΩ	875 KΩ	1.5MEG.	3.5KΩ	0Ω
5	7C5	.3Ω	1.3MEG.	1.3MEG.	.2Ω	100 KΩ	285 KΩ	325Ω	0Ω
6	7C5	.3Ω	1.3MEG.	1.3MEG.	285 KΩ	INF.	310 KΩ	325Ω	0Ω
7	0Z4	0Ω	INF.	320Ω	INF.	300Ω	INF.	INF.	1.3MEG.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

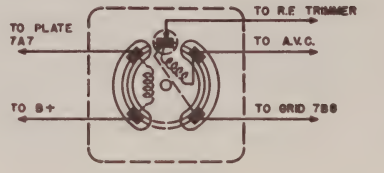
1. DC Voltage measurements are at 20,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Battery voltage maintained at 6.3 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



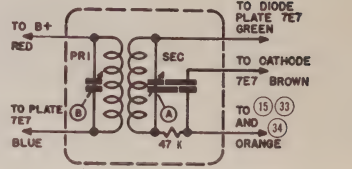
ANTENNA COIL



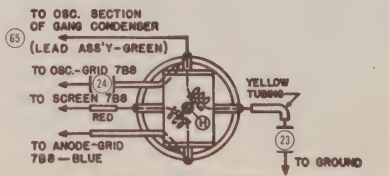
FIRST I. F. TRANSFORMER



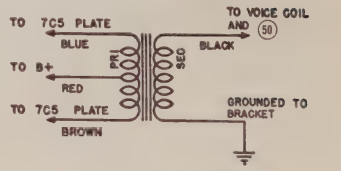
R. F. COIL



SECOND I. F. TRANSFORMER



OSC. COIL ASSEMBLY



OUTPUT TRANSFORMER

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

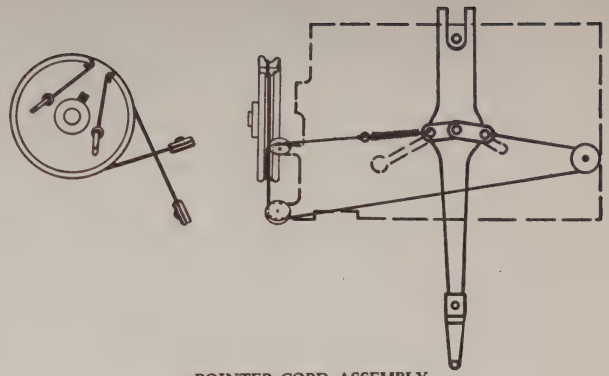
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA PONTIAC PART No.	REPLACEMENT DATA MEISSNER PART No.
56	Ant. Coil Assy.	.5Ω		7242504	
57	RF Coil	110Ω	9.5Ω	7242506	
58	Osc. Coil	4.5Ω	12Ω	7242527	
59	Ant. Series Choke		.5Ω	723856C	
60	Hash Choke		0Ω	7241708	
61	" "		0Ω		
62	Input IF	53Ω	52Ω	7242079	16-6652
63	Output IF	34Ω		7242533	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA PONTIAC PART No.		INSTALLATION NOTES
64	Bayonet	6-8	0.25	Blue	7241216		Type 44

MISCELLANEOUS

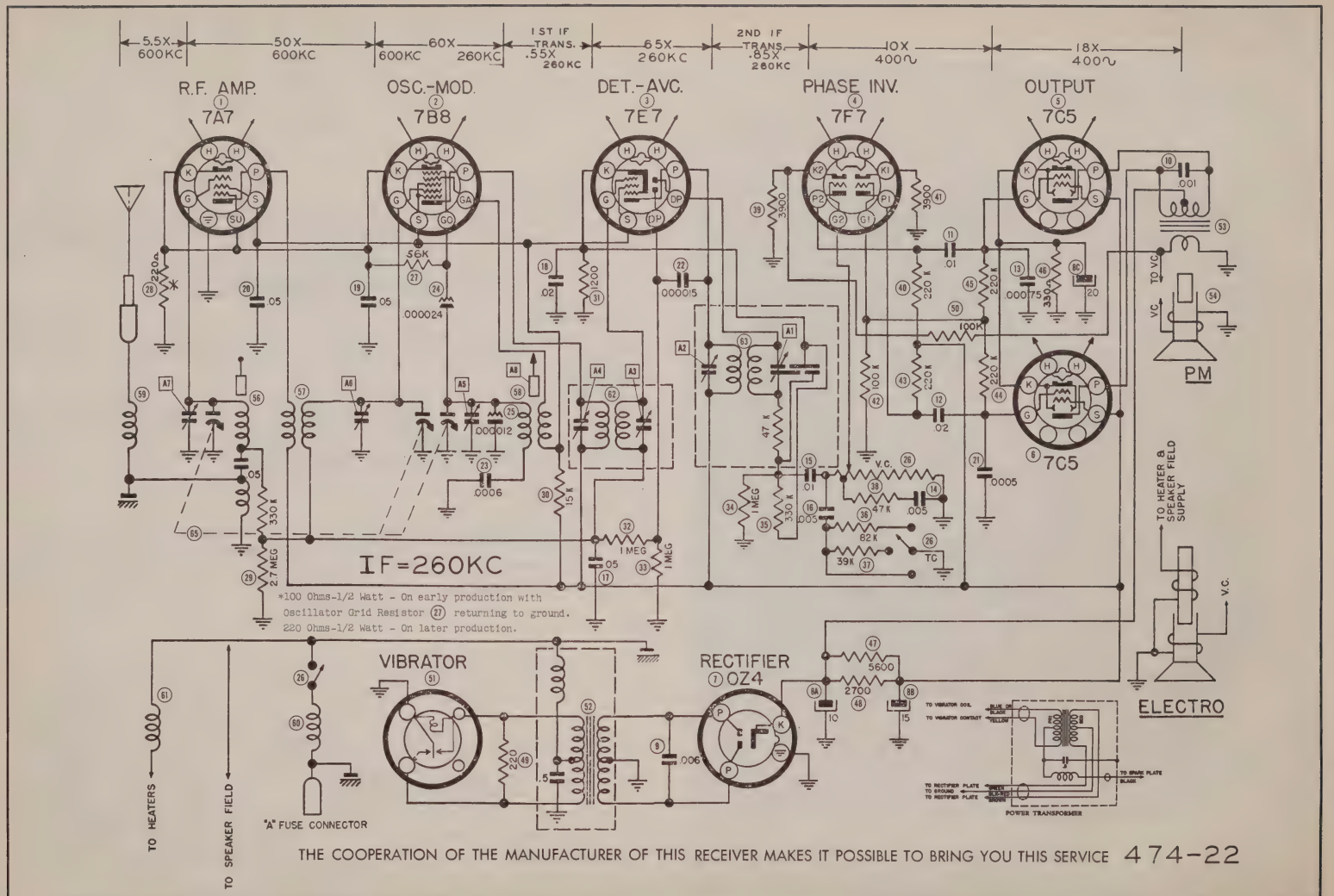
ITEM No.	PART NAME	PONTIAC PART No.	NOTES
65	3 Gang Var. Cap.	7242 [illegible]	(17-361 MMF, 17-361 MMF, 24-361 MMF)
	Pointer	724360C	
	Dial	7241135	



POINTER CORD ASSEMBLY

PUSHBUTTON ADJUSTMENTS

1. Turn receiver on and allow to warm up 10 or 15 minutes.
2. Push spring under desired button to left and remove button.
3. Loosen knurled knob and push in completely.
4. With knob pushed in completely tune in desired station carefully with manual tuning control.
5. Allow knob to return to its normal position and tighten firmly.
6. Replace pushbutton.
7. Set up remaining buttons in same manner.



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 474-22

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

TRADE NAME	RCA, Models 65U, 65AU
MANUFACTURER	Radio Corp. of America, RCA Victor Div., Camden, N.J.
TYPE SET	AC Operated Automatic Phono - Radio Combination Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types, 12SA7 Converter, 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC
TUNING RANGE—BROADCAST	540-1600KC RATING .250 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed and set pointer to 1st reference mark on dial backplate at low frequency end of dial. Maintain loop in same relative position to chassis as when receiver is in cabinet. Use isolation transformer if available. If not connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.01 MFD.	High side to grid (Pin 4) 12SK7. Low side to B-.	455KC	High freq.end.	Across voice coil	A1,A2.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
.01 MFD.	High side to grid (Pin 8) 12SA7. Low side to B-.	"	"	"	A3,A4.	"
220MMFD	High side to ext. ant. lead. Low side to chassis.	1600KC	Variable fully open.	"	A5	Adjust for maximum output.
	Loop	1300KC	Tune for maximum output.	"	A6	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. Repeat last two steps.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7	12SA7	8R	
2	IF Amplifier	12SK7	12SK7	8N	
3	2nd Det.-AVC-AF	12SQ7	12SQ7	9Q	
4	Power Amplifier	50L6	50L6	7AC	
5	Rectifier	35Z5	35Z5	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLTS	RCA PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	30	150	72312	TA-440	PRSA150-30-30	EZ443150†	FP357†	DSB-8040-150	Filter - Green 95972-2
B	30	150		UT-301	PRS150-30				" - Blue
7	.1	400	70617	TC-1	484-.1	DT4P1	TP428	S-4-1	Line Isolating
8	.05	400	70615	TC-15	484-.05	DT4S5	TP426	S-4-05	Line Filter
9	.025	400	70612	TC-12	484-.025	DT4S25	TP451	S-8-02	50L6 Plate Bypass
10	.005	600	70606	TC-25	684-.005	DT6D5	TP408	S-8-005	Audio Coupling
11	.02	400	70611	TC-12	484-.02	DT4S2	TP423	S-4-02	" "
12	.002	400	70601	TC-22	484-.002	DT6D2	TP405	S-8-002	Tone Compensation
13	.05	400	70615	TC-15	484-.05	DT4S5	TP426	S-4-05	AVC Filter
14	.005	400	70606	TC-25	484-.005	DT6D5	TP408	S-8-005	Ant. Coupling
15	.002	600	70601	TC-22	684-.002	DT6D2	TP405	S-8-002	RF Bypass Phono
16	.1	400	70617	TC-1	484-.1	DT4P1	TP428	S-4-1	Phono Coupling
17	820	500	39650	MS-38	1464-.0008	1W5T8	MC251	M0.3-38	Audio Plate Bypass
18	5.6	500	70997	MS-55	1468-.000005	5W5V5	MC205	M0.5-55	Fixed Trimmer

†Parallel two 40 MFD sections to obtain 80 MFD.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	RCA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19A	500KΩ	1	70322	MR48*	D13-133*	M-60-Z *	Volume Control (920400-10)
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 19A per instructions

*Install a 50KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from shaft side, terminals down.)

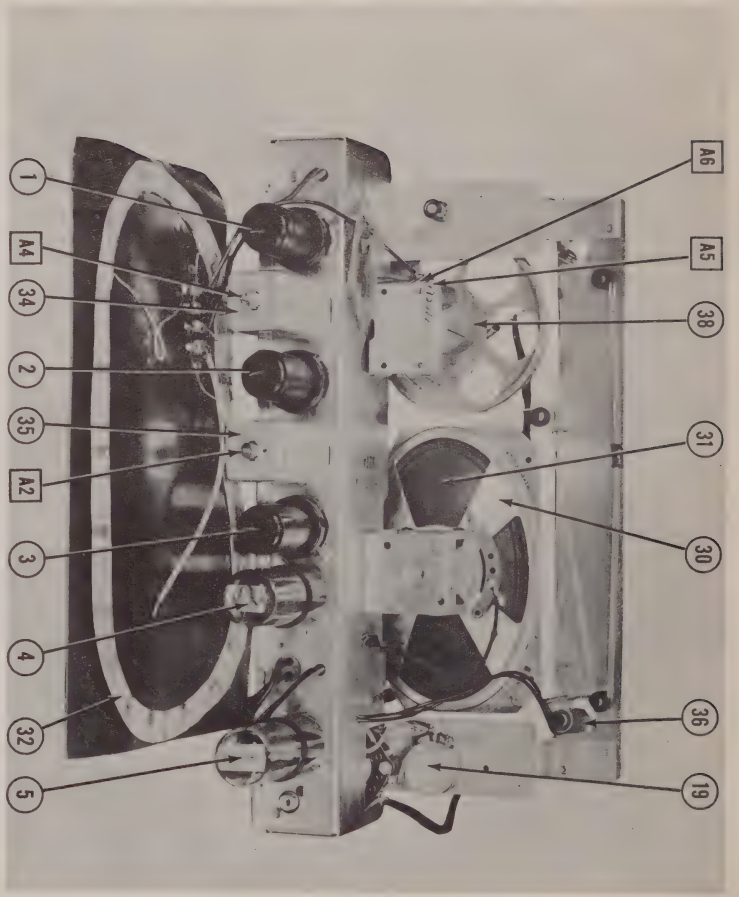
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	RCA PART No.	IRC PART No.	IDENTIFICATION CODES
20	220KΩ	½	14583	BTS-220K	Red-Red-Yl. Line Isolating
21	22KΩ	½	30492	BTS-22K	Red-Red-Or. Oscillator Grid
22	3.3 Meg.	½	12928	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
23	5.6 Meg.	½	31455	BTS-5.6 Meg.	Grn.-Blue-Grn. AF Grid
24	220KΩ	½	14583	BTS-220K	Red-Red-Yl. AF Plate Load
25	470KΩ	½	30648	BTS-470K	Yl.-Vi.-Yl. Output Grid
26	150Ω	½	30880	BW-½-150	Br.-Grn.-Br. Output Cathode
27	1200Ω	1	6134	BTA-1000	Br.-Red-Red Filter
28	33Ω	1	72313	BW-1-33	Or.-Or.-Blk. Surge Limiter

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	RCA PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
29	1800Ω	3.4Ω	220Ω tapped @ 9Ω	.67Ω	70385	A-3876‡			‡Add extra filter to reduce hum level.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA RCA PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.				
30A	PM	3.2Ω	70405			Original Part No. 922279-1
	CONE DIA.	VC DIA.				
31	4"x6"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
30B			71058			Original Part No. 922258-2 Alternate Speaker
C			70470			Original Part No. 922258-1 Alternate Speaker

R F COILS

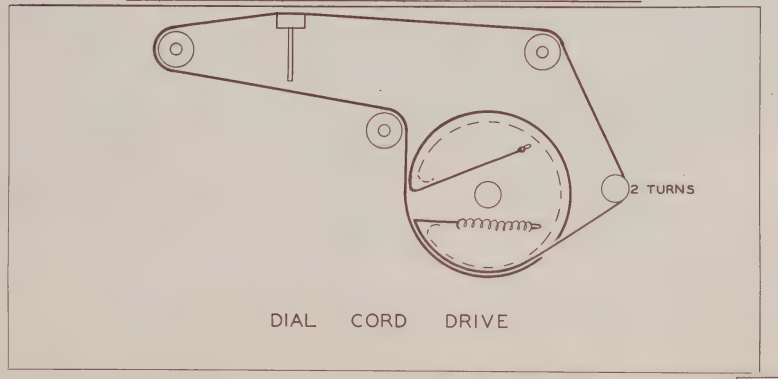
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA RCA PART No.	MEISSNER PART No.	
32	Loop Ant.	.3Ω	1.5Ω	72311		
33	Osc. Coil	1Ω	8Ω	70403	14-1040	Add 50MMFD from grid to high side of tuning cap.
34	Input IF	9.8Ω	9.8Ω	70386		
35	Output IF	12.7Ω	12.7Ω	70387		

DIAL LIGHT

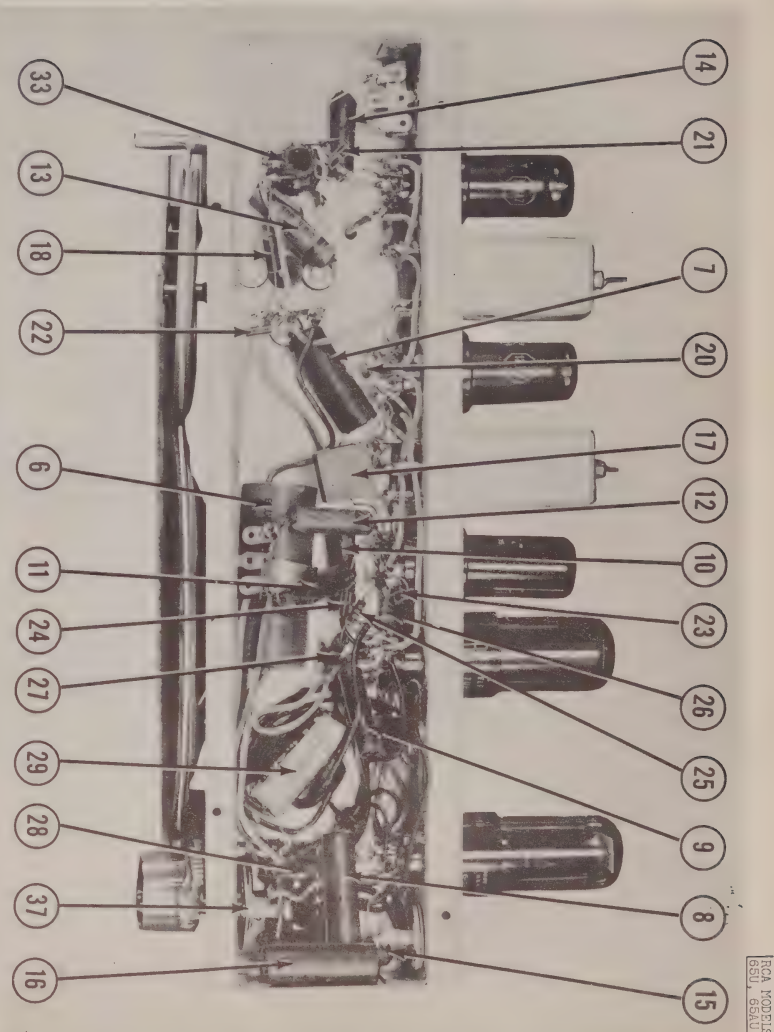
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA RCA PART No.		INSTALLATION NOTES
36	Bayonet	6-8V	0.20	White	11765		Type 51

MISCELLANEOUS

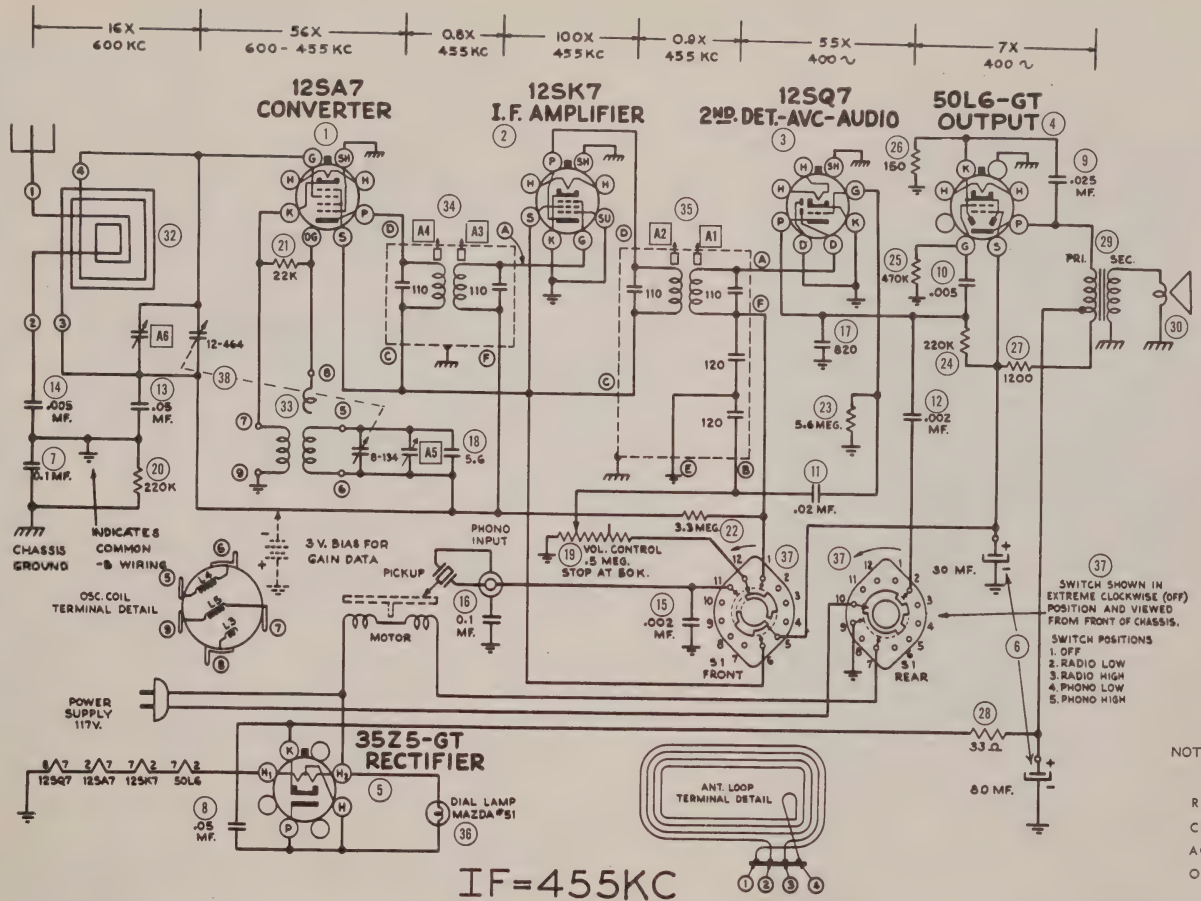
ITEM No.	PART NAME	RCA PART No.	NOTES
37	Switch	70394	Power-Radio-Phono
38	2 Gang Var. Cap.	70383	(12-464 MMF, 8-134 MMF)
	Indicator	70404	
	Dial Glass	70402	
	Record Changer	960260-2	Automatic



CHASSIS—BOTTOM VIEW



RCA MODELS 650, 656U



Pin No.	12SA7 Volt.	12SA7 Res	12SK7 Volt	12SK7 Res.
1	0V.	230KΩ	0V.	230KΩ
2	25V.AC	24Ω	25V.AC	24Ω
3	90V.DC	90KΩ	0V.	0Ω
4	90V.DC	90KΩ	±25V.DC	3.5MEG.
5	−3.9V.DC	19KΩ	0V.	0Ω
6	0V.	1Ω	90V.DC	90KΩ
7	12V.AC	12Ω	37V.AC	35Ω
8	±25V.DC	3.5MEG.	90V.DC	90KΩ

Pin No.	12SQ7 Volt.	12SQ7 Res	50L6GT Volt	50L6GT Res.
1	0V.	230KΩ	0V.	230KΩ
2	±3V.DC	5 MEG.	88V.AC	78Ω
3	0V.	0Ω	110V.DC	90KΩ
4	±25V.DC	470KΩ	90V.DC	90KΩ
5	0V.	0Ω	0V.	400KΩ
6	60V.DC	310KΩ	120V.DC	90KΩ
7	12V.AC	12Ω	37V.AC	35Ω
8	0V.	0Ω	5.6V.DC	140Ω

Pin No.	35Z5GT Volt.	35Z5GT Res
1	0V.	INF.
2	117V.AC	105Ω
3	113V.AC	102Ω
4	0V.	INF.
5	113V.AC	102Ω
6	117V.AC	105Ω
7	88V.AC	78Ω
8	122V.DC	90KΩ

NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN RADIO POSITION.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 474-23

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RCA MODELS
66BX (CH. 1040), (CH. RC-1040A)

RCA MODELS
66BX (CH. 1040), (CH. RC-1040A)

RCA MODEL 66BX

TRADE NAME	RCA, Model 66BX (Chassis RC-1040, RC-1040A)
MANUFACTURER	Radio Corp. of America, RCA Victor Div., Camden, N.J.
TYPE SET	Three Power Portable Superheterodyne Receiver-Self Contained Loop Antenna
TUBES (SIX)	Types, 1T4 RF Amp., 1R5 Converter, 1T4 IF Amp., 1S5 Det.-AVC-AF, 3Q4 (Ch. RC-1040) or 3V4 (Ch. RC-1040A) Power Output, 117Z3 Rectifier.
POWER SUPPLY	110-125 Volts AC-DC or 9 Volt "A" Battery & 90 Volt "B" Battery in Pack Form
RATING	.170 Amp. @ 117 Volts AC or 50MA @ 9 Volts DC & 13MA @ 90 Volts DC
TUNING RANGE—BROADCAST	540-1600KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set left edge of pointer 19/32 from left end of dial plate. Use battery power if possible. When using a-c power use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum volume. Output of signal generator should be no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD	High side to blue loop lead. Low side to chassis.	455KC	Variable fully closed.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If a-c power is used without an isolation transformer reduce dummy ant. to .001 MFD. to reduce hum modulation.
.1 MFD.	"	1300KC	1300KC	"	A5	Place bottom shield plate beneath chassis. Adjust for maximum output.
.1 MFD.	"	1300KC	Tune for maximum output.	"	A6	Adjust for maximum output.
.1 MFD.	"	600KC	600KC	"	A7	Rock variable and adjust for maximum output.
.1 MFD	"	600KC	Tune for maximum output.	"	A8	Rock variable and adjust for maximum output. Repeat last four steps.
	Loop	1300KC	"	"	A9	Put receiver in cabinet, connect loop and close lid. Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		RCA PART No.	STANDARD REPLACEMENT		
1	RF Amp.	1T4	1T4	6AR	
2	Converter	1R5	1R5	7AT	
3	IF Amp.	1T4	1T4	6AR	
4	Det.-AVC-AF	1S5	1S5	6AU	
5A	Power Output	3Q4	3Q4	7BA	Chassis RC-1040
B	" "	3V4	3V4	6BX	" RC-1040A
6	Rectifier	117Z3	117Z3	4BR	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

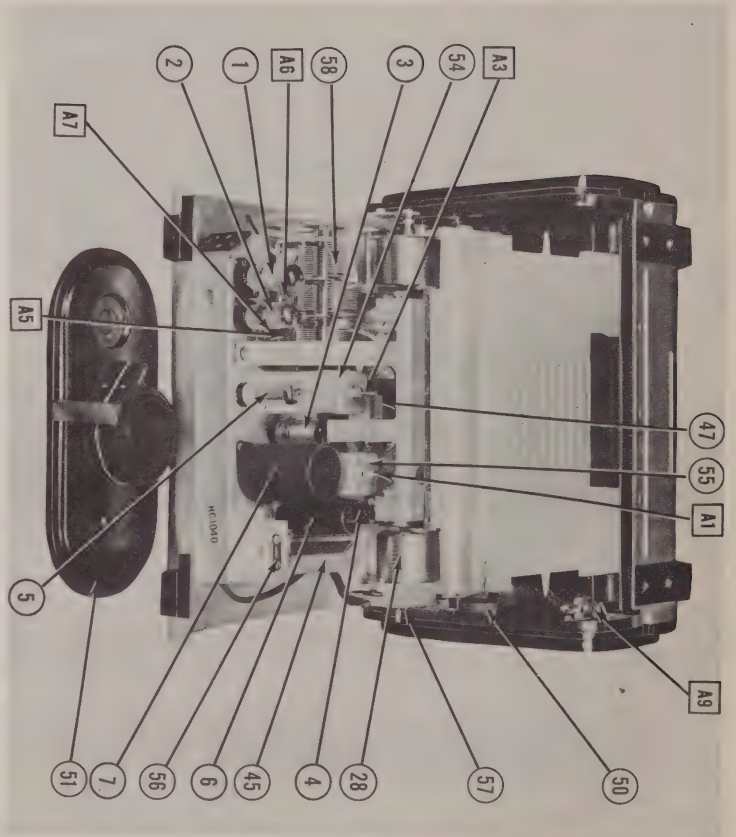
ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	RCA PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	
7A	20	150	71043	EL-434				DY-418*	▲ Filter 920494-501
B	20	150							■ " "
C	160	25		UHC-102				DGM-250-25	▲ Filament Bypass
D	40	25							" "
8	.05	400	70615	TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
9	.005	400	71553	TC-25	484-002	DT6D5	TP408	S-6-005	Output Plate Bypass
10	.002	400	71552	TC-22	484-002	DT6D2	TP405	S-6-002	Audio Coupling
11	.02	400	70611	TC-12	484-02	DT4S2	TP423	S-4-02	Audio Screen Bypass
12	.002	400	71552	TC-22	484-002	DT6D2	TP405	S-6-002	Audio Coupling
13	.01	400	70610	TC-11	484-01	DT4S1	TP421	S-4-01	Audio Screen Bypass
14	.05	200	71551	TC-15	484-05	DT4S5	TP426	S-4-05	Filament Bypass
15	.01	400	70610	TC-11	484-01	DT4S1	TP421	S-4-01	Cabinet Isolation
16	.1	400	70617	TC-1	484-.1	DT4P1	TP428	S-4-1	Line Isolation
17	.05	200	71551	TC-15	484-05	DT4S5	TP426	S-4-05	Filament Bypass
18	.01	400	70610	TC-11	484-01	DT4S1	TP421	S-4-01	IF Grid Filter
19	.05	200	71551	TC-15	484-05	DT4S5	TP426	S-4-05	Filament Bypass
20	.05	400	70615	TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
21	.05	400	70615	TC-15	484-05	DT4S5	TP426	S-4-05	Screen Bypass
22	270		71540						Audio Plate Bypass Cer.
23	82		71514						Diode Filter Cer.
24	82		71514						" " "
25	82		71514						RF Coupling Cer.
26	6.8		31709						" " "
27	82		71514						" " "

*Parallel bypass and one high voltage section.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	RCA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
28	1 Meg.	1	71057				Volume Control (K-920417-1)

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	RCA PART No.	IRC PART No.	
29	4.7 Meg.	½	30931	BTS-4.7 Meg.	Yl.-Vi.-Grn. RF Grid
30	4.7 Meg.	½	30931	BTS-4.7 Meg.	Yl.-Vi.-Grn. AVC Network
31	2 Meg.	½	30649	BTS-2.2 Meg.	Red-Blk.-Grn. Converter Grid
32	100KΩ	½	3252	BTS-100K	Br.-Blk.-Yl. Oscillator Grid
33	5.6 Meg.	½	31455	BTS-5.6 Meg.	Grn.-Blue-Grn. IF Grid
34	2700Ω	½	30730	BTS-2700	Red-Vi.-Red Filament String
35	1800Ω	½	12194	BTS-1800	Br.-Gray-Red Filament String
36	3.3 Meg.	½	31417	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
37	68KΩ	½	14136	BTS-68K	Blue-Gray-Or. Diode RF Filter
38	27KΩ	½	30409	BTS-27K	Red-Vi.-Or. Voltage Dropping
39	10 Meg.	½	30992	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
40	4.7 Meg.	½	30931	BTS-4.7 Meg.	Yl.-Vi.-Grn. AF Screen Dropping
41	220KΩ	½	14583	BTS-220K	Red-Red-Yl. AF Plate Load
42	1 Meg.	½	30652	BTS-1 Meg.	Br.-Blk.-Grn. Output Grid
43	1800Ω	½	12194	BTS-1800	Br.-Gray-Red Filament String
44	1500Ω	½	30554	BTS-1500	Br.-Grn.-Red " "
45	2300Ω	6	71038	AB-2250	" "
46	1800Ω	1	38875	BTA-1800	Br.-Gray-Red Filter

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		RCA PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
47	10000Ω	3.2Ω	500Ω	.7Ω	71047	A-3679	T22847		Original Part No. M-922307-1

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			RCA PART No.	JENSEN PART No.		
	FIELD	VC IMP.				
48	PM	3.2Ω	71056			Original Part No. 922258-2
	CONE DIA.	VC DIA.				
49	4"x6"	1/2"				
			NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

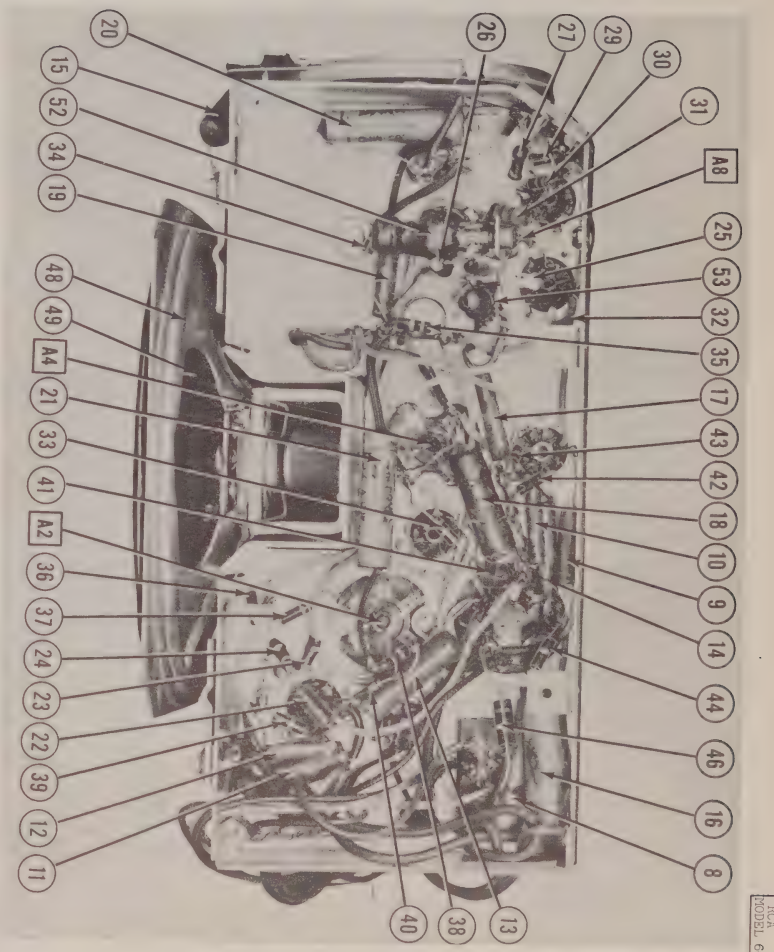
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	RCA PART No.	MEISSNER PART No.	
50	Loop Ant. (Int.)		10.5Ω	71079		
51	Loop Ant. (Ext.)		3Ω	71616		
52	RF Coil	43Ω	3.5Ω	71402		
53	Osc. Coil	1.5Ω	4.5Ω	71401		
54	Input IF	19Ω	19Ω	71299	16-5740	
55	Output IF	14Ω	15Ω	71400		Measure 1Ω on separate screen winding

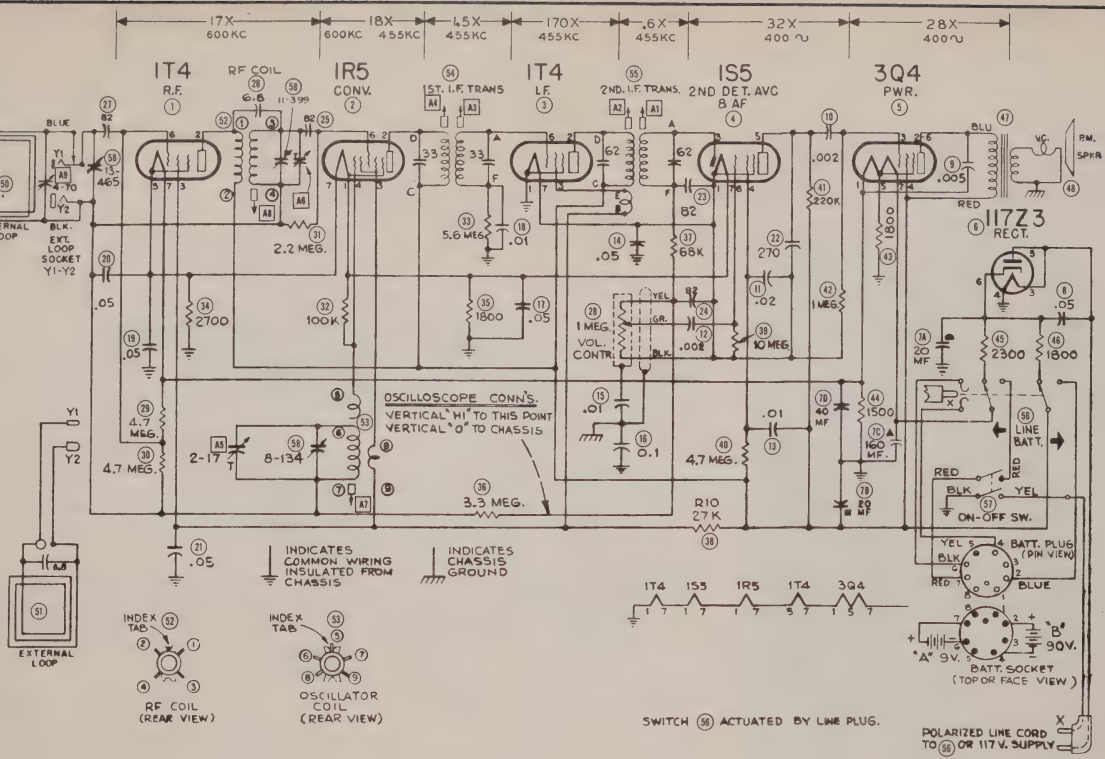
MISCELLANEOUS

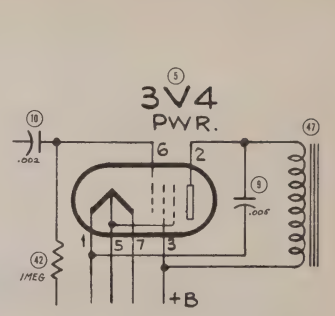
ITEM No.	PART NAME	RCA PART No.	NOTES
56	Switch	71039	Power Change-over
57	"	71045	Power On-Off
58	3-Gang Tuning Cap	71035	(Ant.) 14-478 MMF, (RF) 25-407 MMF, (Osc.) 22-148 MMF
A9	Trimmer	71069	(3-35 MMF) Loop Adjustment
	Dial Scale	71046	
	Indicator	71036	
	Dial Window	71049	
	Battery Pack	VS019	or equivalent (9V. "A" & 90V. "B")

CHASSIS—BOTTOM VIEW

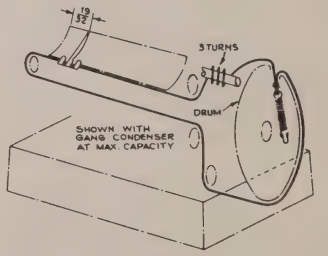


RCA MODEL 65EA





RC-1040A



IF=455KC

* DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE.

NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN AC – DC POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	1T4	4.5 V.DC	98 V.DC	40 V.DC	0 V.	4.5 VDC	3 V.DC	6 V.DC
2	1R5	3 V.DC	98 V.DC	40 V.DC	.8 V.DC	3 V.DC	.1 V.DC	4.5 V.DC
3	1T4	0 V.	98 V.DC	40 V.DC	0 V.	0 V.	0 V.	1.6 V.DC
4	1S5	1.6 V.DC	1.6 V.DC	.3 V.DC	20 V.DC	68 V.DC	0 V.	3 V.DC
5	3Q4	6 V.DC	95 V.DC	.3 V.DC	98 V.DC	7.4 V.DC	95 V.DC	8.9 V.DC
6	117Z3	117 V.AC	INF.	117 V.AC	0 V.	117 V.AC	125 V.DC	0 V.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	1T4	*	3.9 K Ω	28 K Ω	INF.	*	2.8 MEG	*
2	1R5	*	3.9 K Ω	28 K Ω	100 K Ω	*	4.5 MEG	*
3	1T4	0 Ω	3.9 K Ω	28 K Ω	INF.	0 Ω	5.5 MEG	*
4	1S5	*	*	925 K Ω	4.5 MEG	250 K Ω	10 MEG	*
5	3Q4	*	4.3 K Ω	860 K Ω	3.9 K Ω	*	4.3 K Ω	*
6	117Z3	430 Ω	INF.	430 Ω	0 Ω	430 Ω	2.2 K Ω	INF.

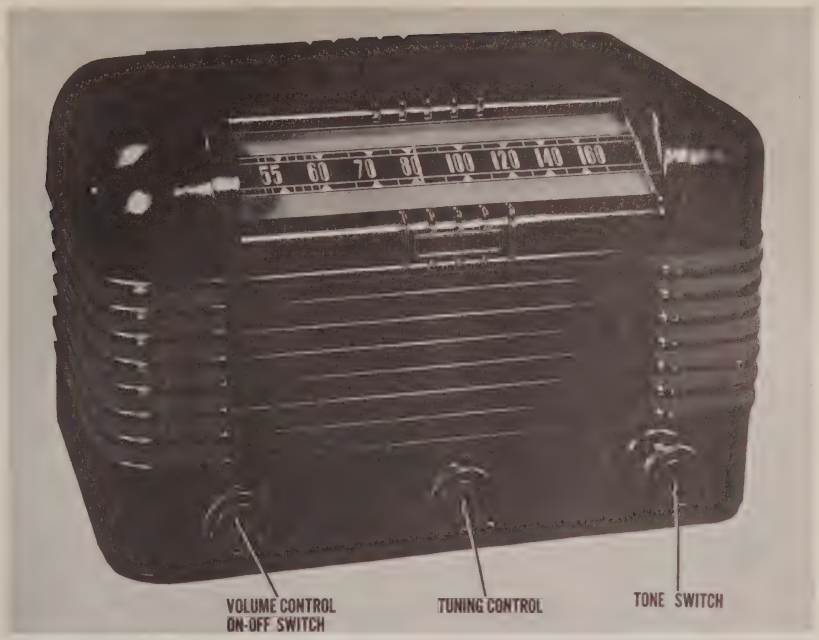
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-24

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by shorting to low end of volume control.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



RADIOLA
MODELS 61-1, 61-2, 61-3

RADIOLA
MODELS 61-1, 61-2, 61-3

RADIOLA MODEL 61-1

TRADE NAME	Radiola, 61-1, 61-2, 61-3
MANUFACTURER	Radio Corp. of American, Home Instrument Div., Camden, N.J.
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (SIX)	Types, 12SG7 Converter, 12J5GT Oscillator, 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 35L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
TUNING RANGE—BROADCAST	540-1600KC RATING .240 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer 1-7/8" from left end of dial backplate. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.01 MFD.	High side to rear stator of variable. Low side to B-.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to.001 MFD. to reduce hum modulation.
200MMFD.	High side to ext. ant. lead. Low side to B-.	1300KC	6-5/8" from left end of dial backplate	"	A5	Adjust for maximum output.
200MMFD	"	"	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: RADIOLA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SG7	12SG7	8BK	
2	Oscillator	12J5GT	12J5GT	6Q	
3	IF Amp.	12SK7	12SK7	8N	
4	Det.-AVC-AF	12SQ7	12SQ7	8Q	
5	Power Output	35L6GT/G	35L6GT/G	7AC	
6	Rectifier	35Z5GT/G	35Z5GT/G	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: RADIOLA PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	30	150	39152	TA-530	PRSA150-50-30	BRD3515	2N520	DSB-5030-150	Filter - Green
B	50	150							" - Red
8	.05	400	70615	TC-15	484-.05	DT4S5	TP426	S-4-05	Line Filter
9	.1	400	70617	TC-1	484-.1	DT4P1	TP428	S-4-1	Line Isolating
10	.02	700	70711	TR-12	1084-.02	MD16S2	TP435	S-10-02	Output Plate Bypass
11	.0018	800	70712	TR-22	1084-.002	MD16D2	TP456	S-16-002	Tone Control
12	.005	600	70627	TC-25	684-.005	DT6D5	TP408	S-6-005	Audio Coupling
13	.02	700	70711	TR-12	1084-.02	MD16S2	TP435	S-10-02	Audio Coupling
14	.01	1000	70652	TR-11	1084-.01	MD16S1	TP434	S-10-01	Osc. Coupling
15	.01	1000	70652	TR-11	1084-.01	MD16S1	TP434	S-10-01	Conv. Screen Bypass
16	.035	600	70635	TC-14	684-.03	DT6S4	TP414	S-6-04	AVC Filter
17	.01	1000	70652	TR-11	1084-.01	MD16S1	TP434	S-10-01	Ant. Coupling
18	330	500	39640	1FM-34	1468-.0004	5W5T4	MC243	M0.5-34	Audio Plate Bypass

CONTROLS

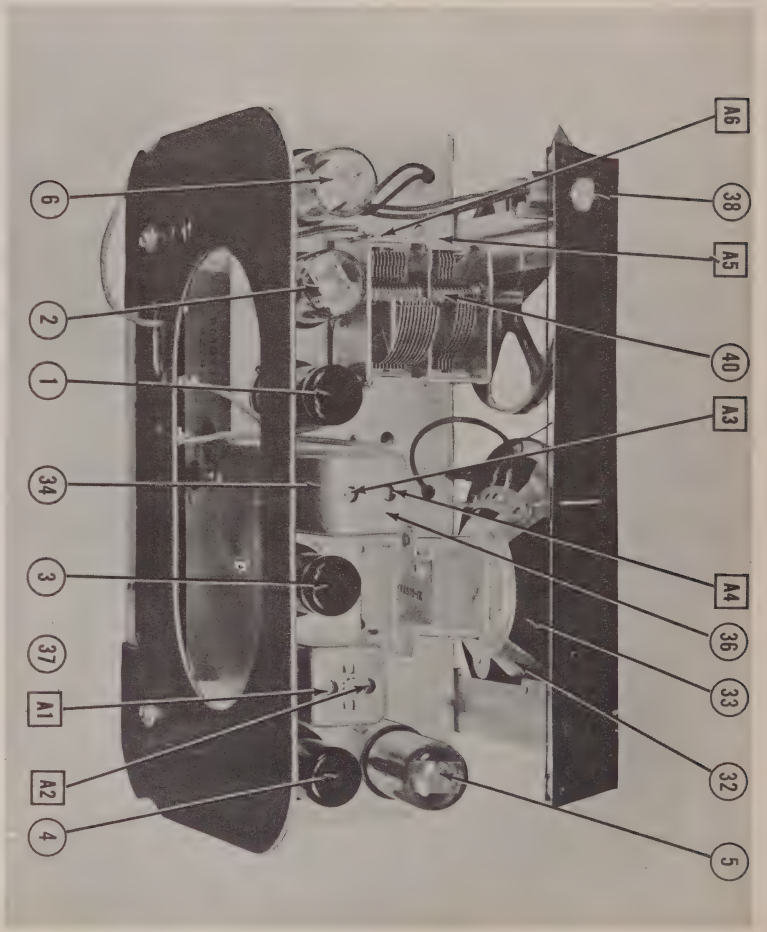
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RADIOLA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19A	500KΩ	1	36242	MR48*	D13-133*	M-60-Z*	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 19A per instructions
C	Switch		" "	M26T	47	SW-A6	" " " " "

* Install a 50KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from the shaft side, terminals down.)

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RADIOLA PART No.	IRC PART No.	IDENTIFICATION CODES
20	3300Ω	½	30733	BTS-3300	Or.-Or.-Red Mixer Cathode
21	15 Meg.	½	38785	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
22	22KΩ	½	30492	BTS-22K	Red-Red-Or. Osc. Grid
23	1500Ω	½	30654	BTS-1500	Br.-Grn.-Red Screen Dropping
24	3.3 Meg.	½	12928	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
25	4.7 Meg.	½	30931	BTS-4.7 Meg.	Yl.-Vi.-Grn. 1st AF Grid
26	220KΩ	½	14583	BTS-220K	Red-Red-Yl. Plate Load
27	120Ω	½	30189	BW-½-120	Br.-Red-Br. Output Cathode
28	470KΩ	½	30648	BTS-470K	Yl.-Vi.-Yl. Output Grid
29	1200Ω	½	6134	BTS-1200	Br.-Red-Red Filter
30	220KΩ	½	14583	BTS-220K	Red-Red-Yl. Line Isolating

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		RADIOLA PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
31	2220Ω	3.4Ω	235Ω	.86Ω	36800	A-3376‡			‡Add extra filter to reduce hum level.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			RADIOLA PART No.	JENSEN PART No.		
	FIELD	VC IMP.		ST-105*		*Fabricate new mounting bracket.
32	PM	3.4Ω	70413	Mod. P5-X		
	CONE DIA.	VC DIA.				
33	4½"	½"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	RADIOLA PART No.	MEISSNER PART No.	
34	Loop Ant.	0	1Ω	39821		
35	Osc.	2.5Ω	7Ω	39824	14-1040	
36	Input IF	8Ω	8Ω	70411	16-5740	Original Part No. M922226-3
37	Output IF	15Ω	15Ω	70412	16-6660†	Original Part No. 922226-4

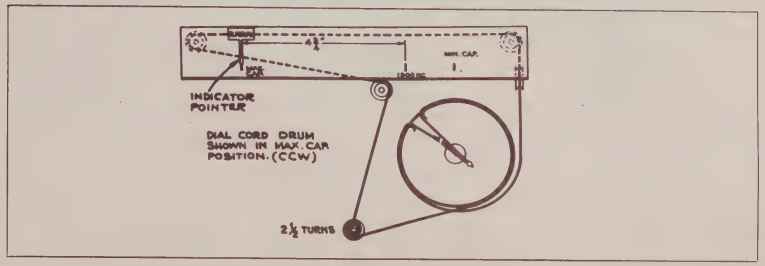
†Add 100 MMFD from black to ground and 100 MMFD from black to arm of volume control.

DIAL LIGHT

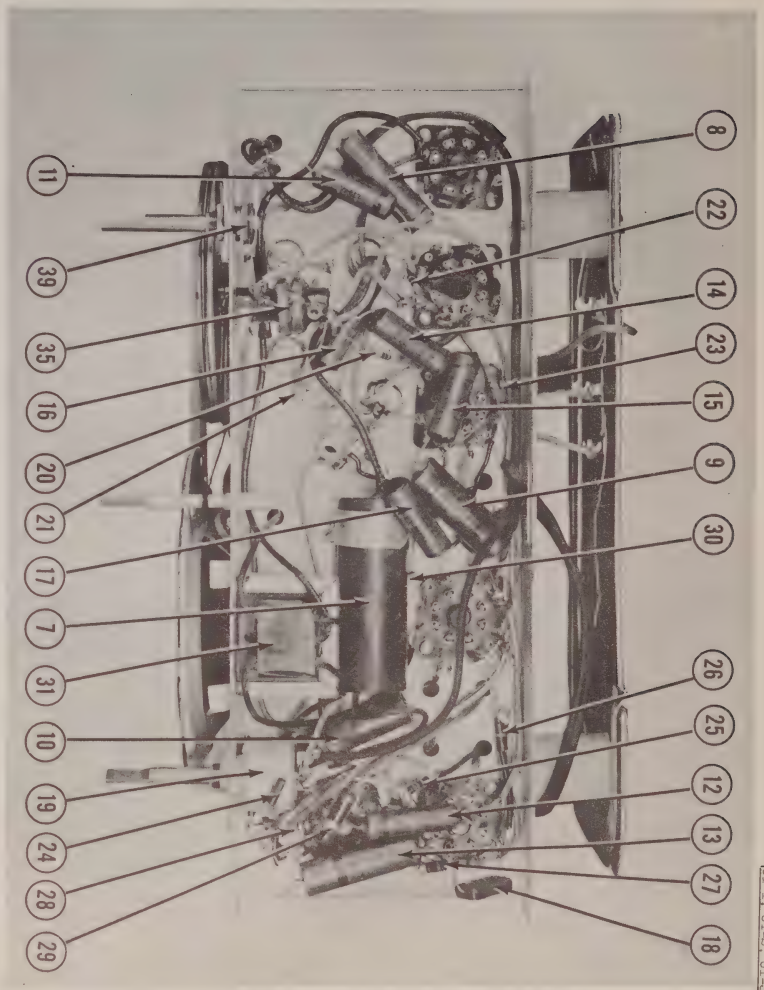
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					RADIOLA PART No.		
38	Bayonet	6-8	0.20	White	11765		Type 51

MISCELLANEOUS

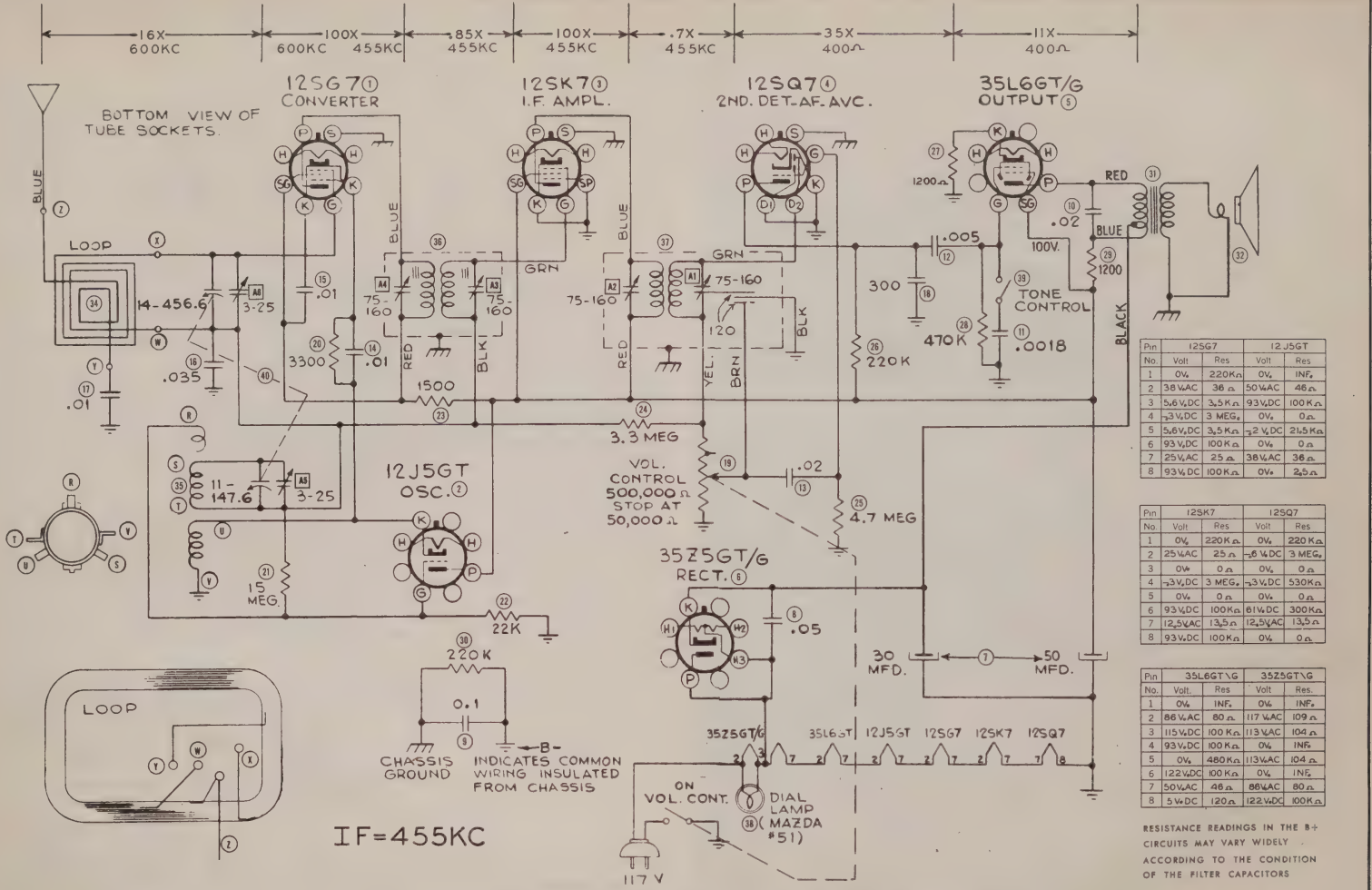
ITEM No.	PART NAME	RADIOLA PART No.	NOTES
39	Tone Switch	36223	
40	2 Gang Var. Cap	36226	(22-479 MMF, 22-159MMF)
	Dial Glass	70704	Models 61-1 & 61-2
	" "	70705	Models 61-3
	Indicator	36236	Models 61-1 & 61-2
	"	37068	Model 61-3



CHASSIS—BOTTOM VIEW



RADIOLA MODELS 61-1, 61-2, 61-3



Pin No.	12SG7 Volt	12SG7 Res	12J5GT Volt	12J5GT Res
1	0V.	220KΩ	0V.	INF.
2	38V.AC	38 Ω	50V.AC	46 Ω
3	5.6V.DC	3.5KΩ	93V.DC	100KΩ
4	-3V.DC	3 MEG.	0V.	0 Ω
5	5.6V.DC	3.5KΩ	-2V.DC	21.5KΩ
6	93V.DC	100KΩ	0V.	0 Ω
7	25V.AC	25 Ω	38V.AC	36 Ω
8	93V.DC	100KΩ	0V.	2.5Ω

Pin No.	12SK7 Volt	12SK7 Res	12SQ7 Volt	12SQ7 Res
1	0V.	220KΩ	0V.	220KΩ
2	25V.AC	25 Ω	-6V.DC	3 MEG.
3	0V.	0 Ω	0V.	0 Ω
4	-3V.DC	3 MEG.	-3V.DC	530KΩ
5	0V.	0 Ω	0V.	0 Ω
6	93V.DC	100KΩ	81V.DC	300KΩ
7	12.5V.AC	13.5Ω	12.5V.AC	13.5Ω
8	93V.DC	100KΩ	0V.	0 Ω

Pin No.	35L6GT/G Volt.	35L6GT/G Res	35Z5GT/G Volt	35Z5GT/G Res.
1	0V.	INF.	0V.	INF.
2	86V.AC	80 Ω	117V.AC	109Ω
3	115V.DC	100KΩ	113V.AC	104Ω
4	93V.DC	100KΩ	0V.	INF.
5	0V.	480KΩ	113V.AC	104Ω
6	122V.DC	100KΩ	0V.	INF.
7	50V.AC	46 Ω	86V.AC	80Ω
8	5V.DC	120Ω	122V.DC	100KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

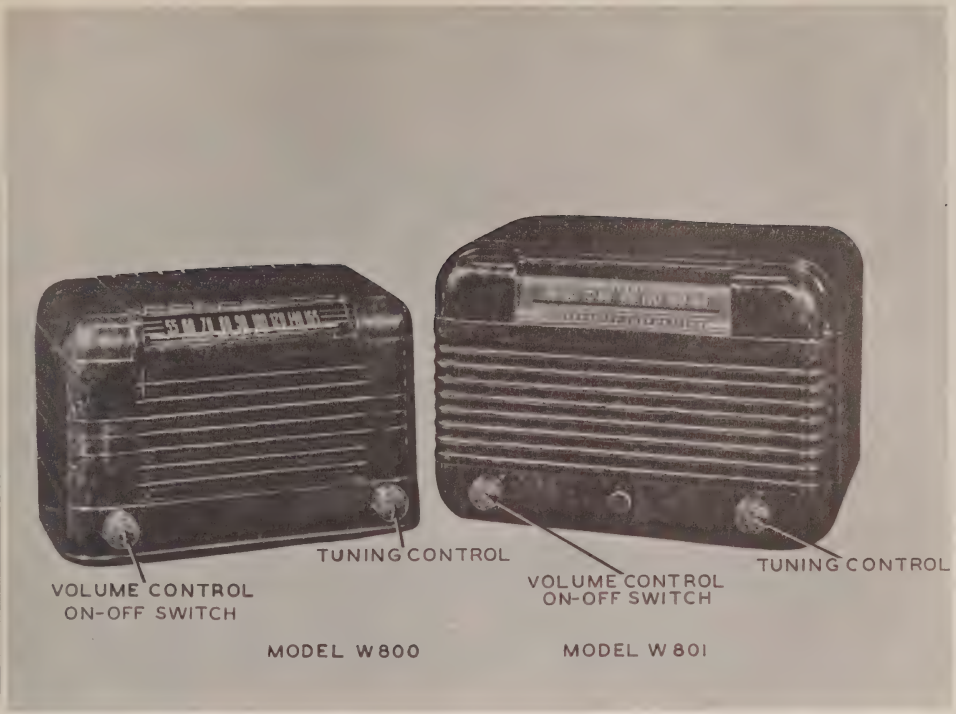
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

474-25

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

REGAL
MODELS W800, W801



REGAL
MODELS W800, W801

TRADE NAME	Regal, Models W800, W801
MANUFACTURER	Regal Electronics, 20 W. 20th St., New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (SIX)	Types, 12SK7GT or 14A7 RF Amp., 12SA7GT or 14Q7 Converter, 12SK7GT or 14A7 IF Amp., 12SQ7GT or 14B6 Det.-AVC-AF, 35L6GT or 35A5 Power Output, 35Z5GT or 35Y4 Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
TUNING RANGE—BROADCAST	540-1650KC RATING .260 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum volume. Output of signal generator should be no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to front stator of variable. Low side to chassis.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
.1 MFD.	High side to ext. ant. lead. Low side to chassis.	455KC	Variable fully closed.	"	A5	Adjust for minimum output.
200 MMF	"	1650KC	Variable fully open.	"	A6	Adjust for maximum output.
200 MMF	"	1500KC	Tune for maximum output.	"	A7	" " " "

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: REGAL PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SK7GT or 14A7	12SK7GT or 14A7	8N 8V	12SH7GT Alternate Lock-in
2	Converter	12SA7GT or 14Q7	12SA7GT or 14Q7	8AD 8AL	Lock-in
3	IF Amp.	12SK7GT or 14A7	12SK7GT or 14A7	8N 8V	Lock-in
4	Det.-AVC-AF	12SQ7GT or 14B6	12SQ7GT or 14B6	8Q 8W	Lock-in
5	Power Output	35L6GT or 35A5	35L6GT or 35A5	7AC 6AA	50L6GT Alternate Lock-in
6	Rectifier	35Z5GT or 35Y4	35Z5GT or 35Y4	6AD 5AL	Lock-in

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: REGAL PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	50	150	60.101	TA-530	PRSA150-40-	EZ5515	2N521	DSB-2x50-150	Filter - Green §
B	50	150			40				" - Red
7A	70	150		TA-530	PRSA150-40-40	BRD3515	2N520	DSB-8040-150	Filter †
B	35	150		EL-443‡	PRS150-30‡	BR3015‡	TC47‡		"
8	.05	400			484-05	DT4S5	TP426	S-4-05	Line Filter
9	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	Output Plate Bypass
10	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
11	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	" "
12	.05	400		TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
13	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	RF Bypass Pwr. Supp.
14	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	Ant. Isolation
15	250	500		1FM-325	1468-00025	5W5T25	MC240	MO.5-325	Audio Plate Bypass
16	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	IF Bypass Vol. Cont.
17	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	IF Bypass Diode
18	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	Osc. Grid Capacitor
19	100	500		1FM-31	1468-0001	5W5T1	MC235	MO.5-31	RF Coupling

§Used in Model W801
†Used in Model W800
‡Parallel section to obtain desired capacity

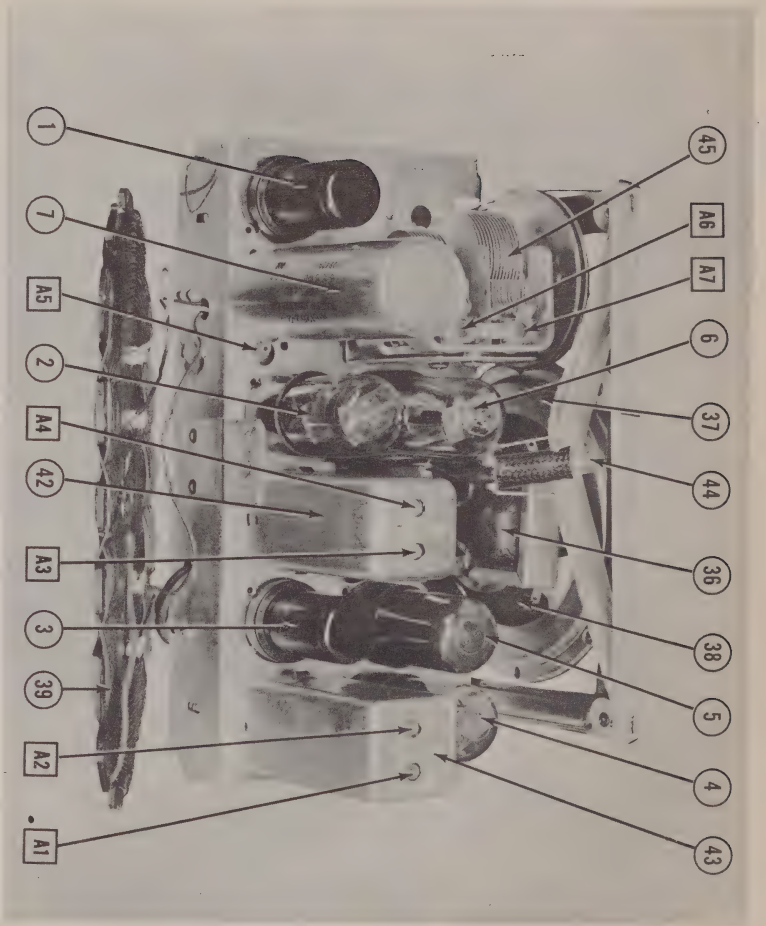
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: REGAL PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
20A	500KΩ	1	20-101	MR48	D13-133	M-60-Z	Volume Control-Used in Model W-801
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 20A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "
20A	1 Meg.	1		MR53	D13-137	M-63-Z	Volume Control-Used in Model W-800
B	Shaft			Not Req.	A	Not Req.	Attach to 20A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: REGAL PART No.	IRC PART No.	IDENTIFICATION CODES
21	50Ω	½		BW-½-47	Grn.-Blk.-Blk. RF Cathode
22	4700Ω	½		BTS-4700	Yl.-Vi.-Red RF Plate Load
23	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Converter Grid
24	25KΩ	½		BTS-22K	Red-Grn.-Or. Oscillator Grid
25	300Ω	½		BW-½-330	Or.-Blk.-Br. IF Cathode-See Note 1
26	2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
27	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Diode RF Filter
28	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AF Grid
29	250KΩ	½		BTS-270K	Red-Grn.-Yl. AF Plate Load

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	REGAL PART No.	IRC PART No.	
30	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
31	150Ω	2		BW-2-150	Br.-Grn.-Br. Output Cathode
32	1000Ω	2		BT-2-1000	Br.-Blk.-Red Filter
33	10Ω	½		Bw-½-10	Br.-Blk.-Blk. Rectifier Ballast
34	10KΩ	½		BTS-10K	Br.-Blk.-Or. Parasitic Suppressor - See Note 1
35	250KΩ	½		BTS-270K	Red-Grn.-Yl. 2nd IF Secondary Shunt-See Note 1

Note 1 - Not used in all models.

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		REGAL PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
36A	2200Ω	3.7Ω	130Ω	.85Ω		A-3876*	T22545*		*Bend mounting tabs down, file out slots and mount on original bracket. Used in Model W800.
B	2500Ω	3.3Ω	130Ω	.8Ω		A-3876	T22545		Used in Model W801

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			REGAL PART No.	JENSEN PART No.		
37A	FIELD	VC IMP.		ST-105		
	PM	3.7Ω		Mod. P5-X		Used in Model W800
	CONE DIA.	VC DIA.				
38A	4-3/4"	1/2"	CONE HAS SPECIAL ADJUSTMENT FEATURE-ORDER FROM MANUFACTURER.			
37B	FIELD	VC IMP.		ST-106		
	PM	3.3Ω		Mod. P5-X		Used in Model W801
	CONE DIA.	VC DIA.				
38B	4-13/16"	1/2"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT.		

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	REGAL PART No.	MEISSNER PART No.	
39	Loop Ant.	0Ω	1.3Ω	30-103		
40	Osc. Coil		3.5Ω	30-101	14-1040	
41	Wave Trap		50Ω	30-106		
42A	Input IF	16Ω	16Ω		16-6658	Used in Model W801
42B	" "	23Ω	23Ω		16-6658	" " " W800
43A	Output IF	16Ω	16Ω		16-6660	" " " W801
43B	" "	23Ω	23Ω		16-6660	" " " W800

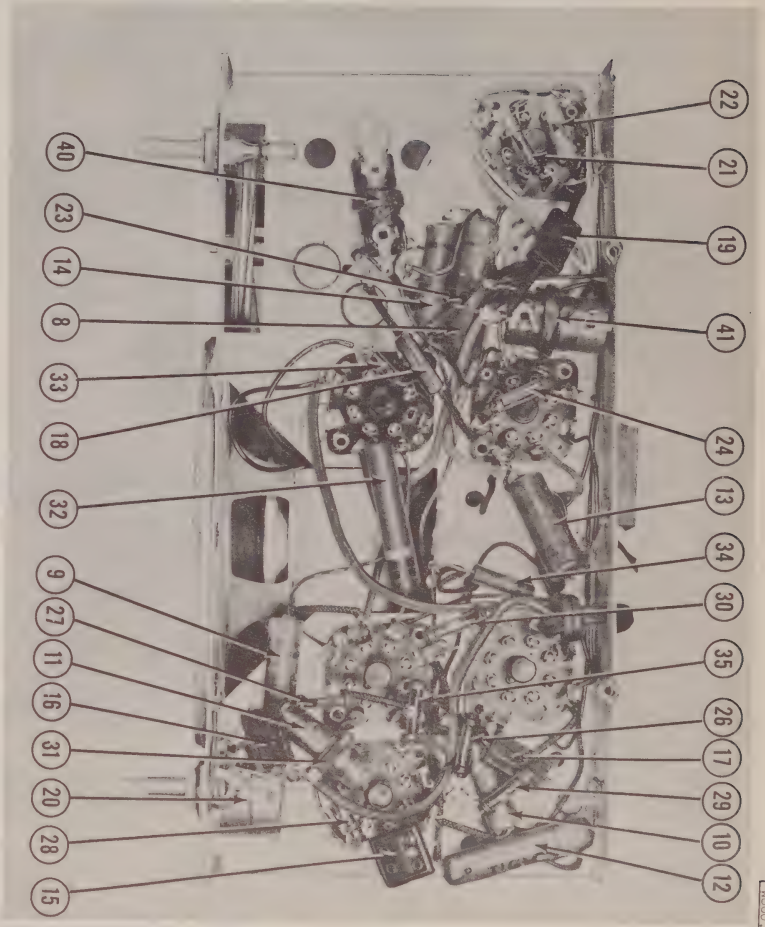
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					REGAL PART No.		
44	Bayonet	6-8V	0.15	Brown			Type 47

MISCELLANEOUS

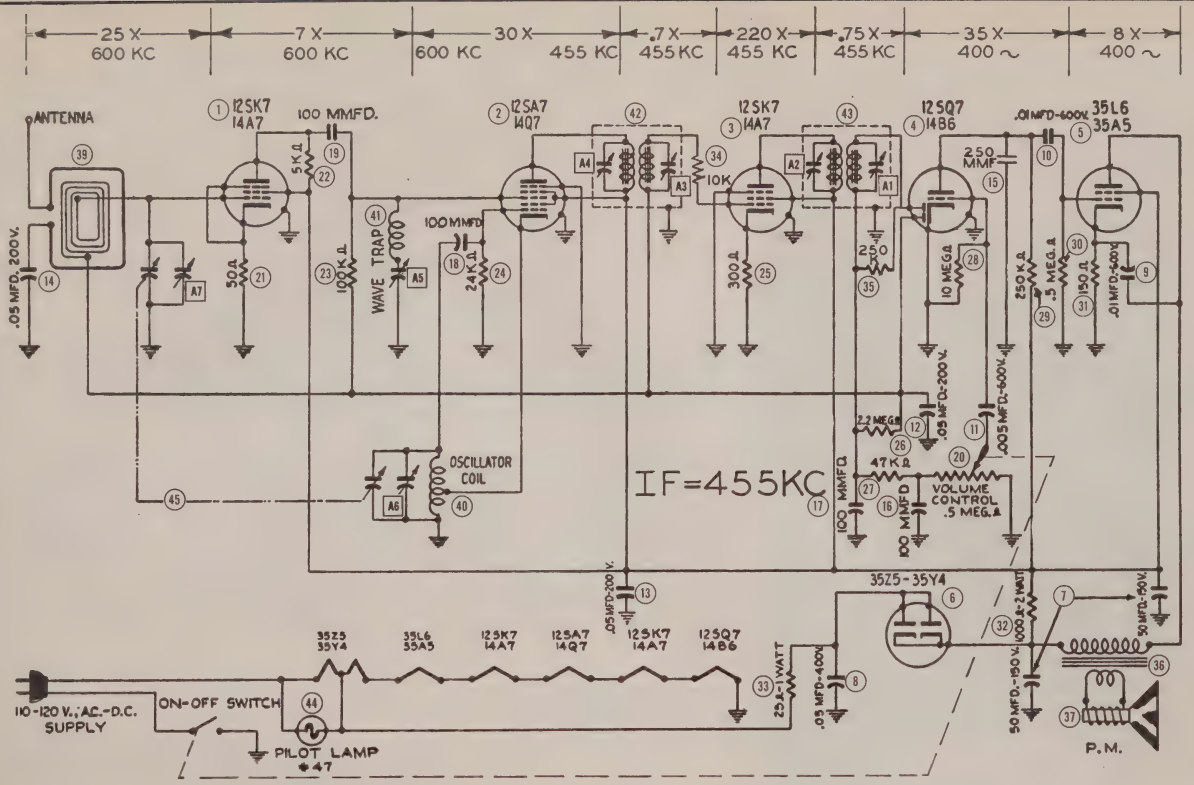
ITEM No.	PART NAME	REGAL PART No.	NOTES
45	2 Gang Var. Cap	40-101	(22-470 MMF, 28-210 MMF)

CHASSIS—BOTTOM VIEW



REGAL MODELS W800, W801

REGAL MODELS W800, W801



Pin No.	12SK7GT Volt.	12SK7GT Res	12SA7GT Volt	12SA7GT Res.
1	0V.	0Ω	0V.	0Ω
2	24 V.AC	22Ω	36 V.AC	32Ω
3	45 V.DC	43Ω	85 V.DC	100 KΩ
4	-.6 V.DC	2.7 MEG.	85 V.DC	100 KΩ
5	45 V.DC	43Ω	-6.4 V.DC	26 KΩ
6	85 V.DC	100 KΩ	0V.	.5Ω
7	12 V.AC	11Ω	24 V.AC	22Ω
8	50 V.DC	105 KΩ	-3 V.DC	2.8 MEG.

Pin No.	12SK7GT Volt.	12SK7GT Res	12SQ7GT Volt	12SQ7GT Res.
1	0V.	0Ω	0V.	0Ω
2	48 V.AC	42Ω	-.75 V.DC	10 MEG.
3	0V.	0Ω	0V.	0Ω
4	-6 V.DC	2.7 MEG.	-35 V.DC	950 KΩ
5	0V.	0Ω	-.6 V.DC	2.7 MEG.
6	85 V.DC	100 KΩ	62 V.DC	350 KΩ
7	36 V.AC	32Ω	12 V.AC	11Ω
8	85 V.DC	100 KΩ	0V.	0Ω

Pin No.	35L6GT Volt.	35L6GT Res	35Z5GT Volt	35Z5GT Res.
1	0V.	INF.	0V.	0Ω
2	87 V.AC	73Ω	117 V.AC	100Ω
3	112 V.DC	100 KΩ	113 V.AC	97Ω
4	85 V.DC	100 KΩ	0V.	INF.
5	0V.	440 KΩ	112 V.AC	107Ω
6	-35 V.DC	950 KΩ	0V.	INF.
7	48 V.AC	42Ω	87 V.AC	73Ω
8	4.8 V.DC	125Ω	117 V.DC	100 KΩ

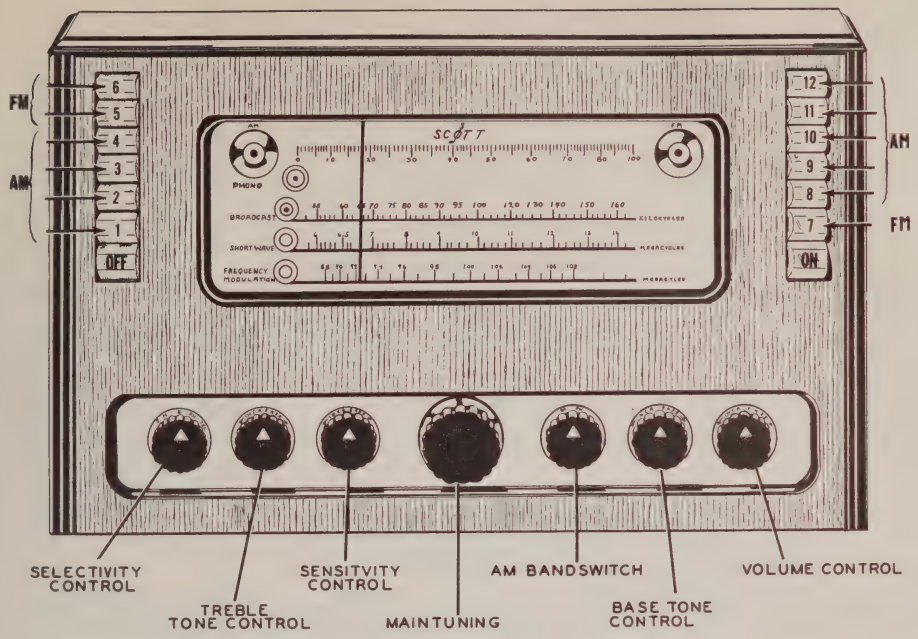
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-26

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



SCOTT MODEL 800-B

TRADE NAME	Scott, Model 800-B
MANUFACTURER	Scott Radio Labs., Inc., 4450 Ravenswood Ave., Chicago, Ill.
TYPE SET	AC Operated FM-AM Combination Radio-Phono Superheterodyne Receiver with Automatic Pushbutton Tuning and Self Contained Loop Antennas.
TUBES (24)	Types, 6SK7GT AM RF Amp., 6J5 AM Osc., 6SA7GT AM Mixer, 6SK7GT AM 1st IF Amp., 6SK7GT AM 2nd IF Amp., 6H6GT AM 2nd Det., 6E5 AM Tuning Indicator, 6AG5 FM RF Amp., 6C4 FM Osc., 6AG5 FM Mixer, 6AC7 FM 1st IF Amp., 6AC7 FM 2nd IF Amp., 6SJ7 FM Limiter, 6SJ7 FM Limiter, 6H6 FM Discriminator, 6E5 FM Indicator, 6J5GT 1st AF Amp., 6J5GT 2nd AF Amp., 6SL7GT Phase Inverter, (2) 6L6G Power Output, (2) 5Y3GT Rectifier, OD3/VR-150 Voltage Regulator
POWER SUPPLY	117 Volts AC
RATING	1.6 Amp. @ 117 Volts AC

FREQUENCY RANGES - BROADCAST - 540-1600KC, SHORT WAVE - 5.9-18.2MC, FM - 88-108MC.

SCOTT
MODEL 800-B

SCOTT
MODEL 800-B

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed." "Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1947 by Howard W. Sams & Co., Inc., Indianapolis, Indiana, U. S. A. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc."

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: SCOTT PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	AM RF Amp.	92A226	6SK7GT	8N	
2	AM Osc.	92A228	6J5	6Q	
3	AM Mixer	92A227	6SA7GT	8AD	
4	AM IF Amp.	92A226	6SK7GT	8N	
5	AM IF Amp.	92A226	6SK7GT	8N	
6	AM 2nd Det.	92A229	6H6GT	7Q	
7	AM Indicator	92B479	6E5	6R	
8	FM RF Amp.	92B598	6AG5	7BD	
9	FM Osc.	92B597	6C4	6BG	
10	FM Mixer	92B598	6AG5	7BD	
11	FM IF Amp.	92A235	6AC7	8N	
12	FM IF Amp.	92A235	6AC7	8N	
13	FM Limiter	92A236	6SJ7	8N	
14	FM Limiter	92A236	6SJ7	8N	
15	FM Discriminator	92A229	6H6	7Q	
16	FM Indicator	92B479	6E5	6R	
17	1st AF Amp.	92A228	6J5GT	6Q	
18	2nd AF Amp.	92A228	6J5GT	6Q	
19	Phase Inverter	92B669	6SL7GT	8BD	
20	Power Output	92A233	6L6G	7AC	
21	Power Output	92A233	6L6G	7AC	
22	Rectifier	92B480	5Y3GT	5T	
23	Rectifier	92B480	5Y3GT	5T	
24	Voltage Regulator	92A237	OD3/VR-150	4AJ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SCOTT PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
25	4	600	15B481	D-4-600	AP-46	GL600-4	KR604		Filter
26A	30	450	15B477	DY-2X30-450	PLS-216	PRS450-30	KRC5220		"
B	30	450				PRS450-30			"
27A	30	450	15B477	DY-2X30-450	PLS-216	PRS450-30	KRC5220		"
B	30	450				PRS450-30			"
28	25	25	15A15			BT25-25		BS26	Cath. Bypass
29	25	50	15B638	M-25-50	TA-525	PRS50-25	BR255	TC36	Output Cath. Bypass
30A	8	450		DHS-2X8-450	UT-88	PRSA450-8-8	EZ8845	2N518	Filter *
B	8	450							"
31A	20	450	15B475	DY-2X20-450	PLS-216	GL450-20-20	KRC5220		AF Plate Decoupling
B	20	450							" " "
32	25	25	15B795	M-25-25	TA-25	PRS25-25	BR252A	TC26	2nd AF Cath. Bypass
33	25	25	15B795	M-25-25	TA-25	PRS25-25	BR252A	TC26	1st AF Cath. Bypass
34	1	200		S-4-1M	TC-10	484-1	DT4W1	TP422	Speaker Crossover
35A	.05	600	15A11	2XDMR6-.05	BP-2056	630- 05-05	DYR60055		Line Bypass
B	.05								" "
36	.05	600	15A13	XDMR6-.05	BP-56	630-05	DYR6005		Audio Coupling
37	.05	600	15A13	XDMR6-.05	BP-56	689-05	TVC6S5	OT106	" "
38A	.25	600	15A425	2XDMR6-.25	BP2256	630-.25-.25	DYR6022	CBD403	FM Lim. Screen Bypass
B	.25	600							FM Lim Plate Decoup.
39A	.05	600	15A11	2XDMR6-.05	BR-2056	630-05-05	DYR60055		FM Ind. Bypass
B	.05	600							FM Lim. Grid Bypass
40	.25	600	15A14	XDMR6-.25	BP-256	630-.25	DYR6025	CB603	FM Lim Plate Decoup.
41	.5	600	15B636	XDMR6-.5	BP-506	630-.5	DYR6050	CB604	Tone Compensation
42	.05	600	15A13	XDMR6-.05	BP-56	630-05	DYR6005		Audio Coupling
43	.05	600	15B639	XT1MS-.05	PX-156	689-05	TVC6S5	OT106	" "
44	.02	600	15A12	XDMR6-.02	PX-126	689-02	TVC6S2	OT103	" "
45A	.05	600	15B599	3XEMR10-.05		630-05-05-05			2nd Det. Cath. Bypass
B	.05	600							AVC Bypass
C	.05	600							FM Ind. Bypass
46A	.1	600	15A10	3XDMR6-.1	BP-316	630-.1-.1-.1	DYR6111	CBT602	IF Amp. Cath. Bypass
B	.1								IF Amp Screen Bypass
C	.1								IF Amp. Plate Decoup.
47A	.1	600	15A10	3XDMR6-.1	BP-316	630-.1-.1-.1	DYR6111	CBT602	IF Amp. Cath. Bypass
B	.1								IF Amp. Screen Bypass
C	.1								IF Amp. Plate Decoup.

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SCOTT PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
48	.1	600	15A409	XT1MS6-.1	PX-16	689-.1	TVC6P1	OT110	Mixer Plate Decoup.
49A	.1	600	15A10	3XMR6-.1	BP-316	630-.1-.1-.1	DYR6111	CBT602	Plate Bypass
B	.1	600							Mixer Screen Bypass
C	.1	600							Mixer Cath. Bypass
50	.05	600	15B639	XT1MS6-.05	PX-156	689-05	TVC6S5	OT106	Osc. Plate Bypass
51A	.1	600	15B796	2XDMR6-.1	BP-216	630-.1-.1	DYR6110	CBD602	RF Cath. Bypass
B	.1	600							RF Screen Bypass
52	.05	600	15B639	XT1MS6-.05	PX-156	689-05	TVC6S5	OT106	IF Amp Grid Bypass
53	1000	500	15A35	M0.3-21	1FM_21	1467-001	1W5D1	MC255	Tone Compensation
54	390	500	15B799	M0.5-34	1FM-34	1468-0004	5W5T4	MC243	" "
55	5000	1000	15B763	MW.5-25	1FM-25	1467-005	1D5D5	MC465	Output Plate Bypass
56	1300	500	15A415						De-emphasis
57	100	500	15A428	M0S.5-31	MS-31	1469-0001	5R5T1	MCB235	Disc. Diode Filter
58	100	500	15A428	M0S.5-31	MS-31	1469-0001	5R5T1	MCB235	" " "
59	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	FM Lim. Screen Bypass
60	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	FM Lim. Fil. Bypass
61	10000	500	15A41			1467-01			RF Bypass Pwr. Supp.
62	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	FM Lim. Screen Bypass
63	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	FM Lim. Fil. Bypass
64	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Plate Decoup.
65	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Screen Bypass
66	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Fil. Bypass
67	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Cath. Bypass
68	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Plate Decoup.
69	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Screen Bypass
70	10000	300	15A427	MW.3-11	1FM-11	1467-01	1D5S1	MC475	IF Amp. Fil. Bypass
71	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Cath. Bypass
72	240	500	15A31	M0.5-325	1FM-325	1468-00025	5W5T25	MC240	Audio Bypass
73	10000	500	15A41			1467-01			Tone Compensation
74	390	500	15B799	M0.5_34	1FM-34	1468-0004	5W5T4	MC243	FM Mixer Screen Bypass
75	390	500	15B799	M0.5-34	1FM-34	1468-0004	5W5T4	MC243	FM Mixer Fil. Bypass
76	390	500	15B799	M0.5-34	1FM-34	1468-0004	5W5T4	MC243	FM Mixer Cath. Bypass
77	390	500	15B799	M0.5-34	1FM-34	1468-0004	5W5T4	MC243	FM RF Plate Decoup.
78	390	500	15B799	M0.5-34	1FM-34	1468-0004	5W5T4	MC34	FM Osc. Plate Bypass
79	100	500	15A428	M0S.5-31	MS-31	1469-0001	5R5T1	MCB235	FM Osc. Grid Capacitor
80	390	500	15A799	M0.5-34	1FM-34	1468-0004	5W5T4	MC243	FM RF Screen Bypass
81	390	500	15A799	M0.5-34	1FM-34	1468-0004	5W5T4	MC243	FM RF Cath. Bypass
82	10	500	15A22						Fixed Trimmer Cer.
83	10	500	15A22						" " "
84	20	500	15B864						" " " "
85	240	500	15A31	M0.5-325	1FM-325	1468-00025	5W5T25	MC243	RF Coupling
86	51	500	15A28	M0S.5-45	MS-45	1469-00005	5R5Q5	MCB225	Osc. Coupling
87	51	500	15A28	M0S.5-45	MS-45	1469-00005	5R5Q5	MCB225	AM Osc. Grid Capacitor
88	10	500	15B804						Fixed Trimmer Cer.
89	390	500	15B861	M0S.5- 34	MS-34	1468-0004	5R5T4	MCB243	Fixed Padder
90	4700	500	15B798						" "
91	240	500	15A31	M0.5-325	1FM-325	1468-00025	5W5T25	MC240	RF Coupling

*Not used in all models.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SCOTT PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
92A	1 Meg.	1	70B570	MR53	D13-137	AM-63-Z	Volume Control.
B	Shaft		Not Req.	Not Req.	A	RS-3	Attach to 92A per instructions.
93A	250KΩ	1	70B540	TM221	D13-130X	AT-42	Treble Control
B	Shaft		Not Req.	Not Req.	A	RS-3	Attach to 93A per instructions
94A	250KΩ	1	70B54C	TM221	D13-130X	AT-42	Bass Control.
B	Shaft		Not Req.	Not Req.	A	RS-3	Attach to 94A per instructions
95A	10KΩ	2	70B569	A10MP	W-10K	58-10K ♦	Sensitivity Control See Note 1
95A	10KΩ	2	70B569		W-10K		Sensitivity Control See Note 2
B	Switch		Not Req.		56		Attach to 95A per instructions
96A	1 Meg.	1	70B568	UM159	D11-137	AM-61-S	Tuning Eye Adj. Control
B	Shaft		Not Req.	SS12	E #	KSS-3 #	Attach to 96A per instructions

Note 1 Use this replacement if sensitivity control does not have switch on rear.
Note 2 " " " " " " has switch on rear.
Use split in knurled shaft for screwdriver slot.
♦ Attach part of old shaft to clarostat shaft by filing half flat on shafts, lap and pin together to get required length.

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	SCOTT PART No.	IRC PART No.	
97	470KΩ	½	70A61	BTS-470K	Yl.-Vi.-Yl. AVC Network
98	560Ω	½	70A46	BTS-560	Grn.-Blue-Br. AM-RF Cathode
99	10KΩ	½	70A419	BTS-10K	Br.-Blk.-Or. Bleeder
100	15KΩ	2	70B618	BT-2-15K	Br.-Grn.-Or. AM-RF Screen Dropping
101	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. AM-Oscillator Grid
102	5100Ω	½	70B648	BTS-4700	Grn.-Br.-Red " " Plate Load
103	470KΩ	½	70A61	BTS-470K	Yl.-Vi.-Yl. Mixer Grid
104	22KΩ	½	70A52	BTS-22K	Red-Blk.-Or. Injection Grid
105	240Ω	½	70A45	BW-½-220	Red-Yl.-Br. Mixer Cathode
106	1000Ω	½	70A47	BTS-1000	Br.-Blk.-Red Voltage Dropping
107	18KΩ	2	70A68	BT-2-18K	Br.-Gray-Or. Mixer Screen Dropping
108	1000Ω	½	70A47	BTS-1000	Br.-Blk.-Red " Plate Decoupling
109	47Ω	½	70A420	BW-½-47	Yl.-Vi.-Blk. 1st AM-IF Secondary Series
110	10Ω	½	70A42	BW-½-10	Br.-Blk.-Blk. " " " " "
111	220KΩ	½	70A59	BTS-220K	Red-Red-Yl. " " " Grid
112	560Ω	½	70A46	BTS-560	Grn.-Blue-Br. " " " Cathode
113	100KΩ	½	70A58	BTS-100K	Br.-Blk.-Yl. " " " Screen Dropping
114	1000Ω	½	70A47	BTS-1000	Br.-Blk.-Red " " " Plate Decoupling
115	47Ω	½	70A420	BW-½-47	Yl.-Vi.-Blk. 2nd " " Secondary Series
116	47Ω	½	70A420	BW-½-47	Yl.-Vi.-Blk. " " " " "
117	560Ω	½	70A46	BTS-560	Grn.-Blue-Br. " " " Cathode
118	100KΩ	½	70A58	BTS-100K	Br.-Blk.-Yl. " " " Screen Dropping
119	1000Ω	½	70A47	BTS-1000	Br.-Blk.-Red " " " Plate Decoupling
120	1 Meg.	½	70A63	BTS-1 Meg.	Br.-Blk.-Grn. AM Indicator Series
121	5Ω	½	70B660	Bw-½-4.7	Blk.-Grn.-Blk Parasitic Suppressor
122	470KΩ	½	70A61	BTS-470K	Yl.-Vi.-Yl. FM Indicator Grid
123	1 Meg.	½	70A63	BTS-1 Meg.	Br.-Blk.-Grn." " Series
124	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. AM Diode Load
125	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. " " "
126	820KΩ	½	70B649	BTS-820K	Gray-Red-Yl. Noise Limiter Cathode Filter
127	820KΩ	½	70B649	BTS-820K	Gray-Red-Yl. AVC Network
128	2.2 Meg.	½	70A64	BTS-2.2 Meg.	Red-Red-Grn. " "
129	820KΩ	½	70B649	BTS-820KΩ	Gray-Red-Yl. Noise Limiter Cathode Bias
130	1300Ω	½	70B650	BTS-1200	Br.-Or.-Red 1st AF Cathode
131	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. " " Plate Load
132	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. " " " Decoupling
133	100KΩ	½	70A58	BTS-100K	Br.-Blk.-Red 2nd " Grid
134	1300Ω	½	70B650	BTS-1200	Br.-Or.-Red " " Cathode
135	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. " " Plate Load
136	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. " " " Decoupling
137	10KΩ	½	70A419	BTS-10K	Br.-Blk.-Or. Tone Compensation
138	5600Ω	½		BTS-5600	Grn.-Blue-Red " " " - See Note 3
139	150Ω	½	70A44	BW-½-150	Br.-Grn.-Br. FM-RF Cathode
140	56KΩ	½	70A55	BTS-56K	Grn.-Blue-Or. FM-RF Screen Dropping
141	100KΩ	½	70A58	BTS-100K	Br.-Blk.-Yl. FM-Oscillator Grid
142	1000Ω	½	70A47	BTS-1000	Br.-Blk.-Red FM-RF Plate Decoupling
143	5100Ω	½	70B648	BTS-4700	Grn.-Br.-Red FM-Oscillator Plate Load
144	5Ω	½	70B660	BW-½-4.7	Blk.-Grn.-Blk. Parasitic Suppressor
145	1000Ω	½	70A47	BTS-1000	Br.-Blk.-Red FM Mixer Cathode
146	220KΩ	½	70A59	BTS-220K	Red-Red-Yl. FM Mixer Screen Dropping
147	2400Ω	½	70A49	BTS-2200	Red-Yl.-Red FM Mixer Plate Decoupling
148	56Ω	½	70A43	BW-½-56	Grn.-Blue-Blk. Parasitic Suppressor
149	160Ω	½	70B654	BW-½-150	Br.-Blue-Br. 1st FM-IF Cathode
150	56KΩ	½	70A55	BTS-56K	Grn.-Blue-Or. 1st FM-IF Screen Dropping
151	2400Ω	½	70A49	BTS-2200	Red-Yl.-Red 1st FM-IF Plate Decoupling
152	56Ω	½	70A43	BW-½-56	Grn.-Blue-Blk. Parasitic Suppressor
153	160Ω	½	70B654	BW-½-150	Br.-Blue-Br. 2nd FM-IF Cathode
154	56KΩ	½	70A55	BTS-56K	Grn.-Blue-Or. 2nd FM-IF Screen Dropping
155	2400Ω	½	70A49	BTS-2200	Red-Yl.-Red 2nd FM-IF Plate Decoupling
156	27Ω	½	70B666	BW-½-27	Red-Vi.-Blk. Parasitic Suppressor
157	39KΩ	1	70B653	BTA-39K	Or.-White-Or. Voltage Dropping
158	2.2 Meg.	½	70A64	BTS-2.2 Meg.	Red-Red-Grn. FM Indicator Grid Filter
159	27Ω	½	70B666	BW-½-27	Red-Vi.-Blk. Parasitic Suppressor
160	27KΩ	½	70A418	BTS-27K	Red-Vi.-Or. 2nd FM Limiter Grid
161	15KΩ	½	70A51	BTS-15K	Br.-Grn.-Or. " " " "
162	15KΩ	1	70B683	BTA-15K	Br.-Grn.-Or. Bleeder
163	39KΩ	1	70B653	BTA-39K	Or.-White-Or. 2nd FM Limiter Screen Dropping
164	100KΩ	½	70A58	BTS-100K	Br.-Blk.-Yl. 2nd FM Limiter Plate Decoupling
165	100KΩ	½	70A58	BTS-100K	Br.-Blk.-Yl. FM Diode Load
166	100KΩ	½	70A58	BTS-100K	Br.-Blk.-Yl. FM Diode Load

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	SCOTT PART No.	IRC PART No.	
167	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. FM Deemphasis Network
168	470KΩ	½	70A61	BTS-470K	Yl.-Vi.-Yl. Tone Compensation
169	47KΩ	½	70A54	BTS-47K	Yl.-Vi.-Or. Phase Inverter Grid
170	1500Ω	½	70A48	BTS-1500	Br.-Grn.-Red Phase Inverter Cathode
171	220KΩ	½	70A59	BTS-220K	Red-Red-Yl. Phase Inverter Plate Load
172	220KΩ	½	70A59	BTS-220K	Red-Red-Yl. " " "
173	220KΩ	½	70A59	BTS-220K	Red-Red-Yl. Output Grid
174	220KΩ	½	70A59	BTS-220K	Red-Red-Yl. " "
175	220KΩ	½	70A59	BTS-220K	Red-Red-Yl. Phase Inverter Grid
176	250KΩ	10	70A70	AB-250	Output Cathode
177	1 Meg.	½	70A63	BTS-1 Meg.	Br.-Blk.-Grn. Feedback
178	10KΩ	10	70B760	AB-10000	Tone Compensation
179	3000Ω	10	70B681	AB-3000	Voltage Regulator Series
180	300Ω	10	70B682	AB-300	Filter
181	3000Ω	10	70B681	AB-3000	Series Speaker Field
182	15Ω	10		AB-15	Speaker Crossover Net
183	10Ω	10		AB-10	" " "

Note 3 - Not used in all models.

FILTER CHOKE

ITEM NO.	RATINGS			REPLACEMENT DATA			INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000~)	SCOTT PART NO.	STANCOR PART NO.	THORDARSON PART NO.	
184 & 185	.192A	80Ω	6 Henries	17B492	C-1411$	T20C55	$Drill new mounting holes.

BASS BOOST CHOKE

ITEM NO.	RATINGS			REPLACEMENT DATA			INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000~)	SCOTT PART NO.	STANCOR PART NO.	THORDARSON PART NO.	
186		240Ω	11 Henries	17B591			

TRANSFORMER (MOTOR AND RELAY)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	SCOTT PART No.	STANCOR PART No.	THORDARSON PART No.	
187	117VAC @ .2A	24 VAC @ 1.4A			91B694			

TRANSFORMER (POWER)

ITEM No.	RATING					REPLACEMENT DATA		
	PRI.	SEC. 1	SEC. 2	SEC. 3	SEC. 4	SCOTT PART No.	STANCOR PART No.	THORDARSON PART No.
188	117V AC @ 1.6A	800V CT @ 192A	5.2V AC @ 3.6A	6.3V AC @ 3.8A	6.4V AC @ 4A	91B429	P-6165 and P-4019	

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SCOTT PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
189	7800Ω	7.7Ω 16Ω	300Ω	.6Ω .9Ω	91B664	A-3890$	T22S66$		$Drill new mounting holes.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
	FIELD RES.	VC IMP.	SCOTT PART No.	JENSEN PART No.		
190A	9675Ω	7.7Ω	85B490	Spec.C4536		
B	PM		Part of 85B490	Mod. JAF60		Mounted coaxially with 190A
C			85B909			Alternate speaker
	CONE DIA.	VC DIA.				
191A	14-1/4"	1-5/8"				
B	5"	5/8"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA SCOTT PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
192	BC Loop Ant.	0Ω				
193	SW Loop Ant.	0Ω				
194	BC & SW Coup.					BC winding is 4Ω SW winding is .1Ω
195	FM Loop Ant.	0Ω				
196A	BC Ant Coil	PRI 15Ω		20B604		Items 196A, 196B are complete assby.
196B	BC Ant "	SEC	7.4Ω	20B605		
197A	SW "	" PRI .1Ω		20B608		" 197A, 197B " " "
197B	" "	" SEC	0Ω	20B609		
198	FM Ant. Coil		0Ω	20B612		
199	BC RF Coil	2.5Ω	7Ω	20B606		
200	SW "	" .3Ω	0Ω	20B610		
201	FM "	"	0Ω	20B613		
202	BC Osc. Coil		1.8Ω	20B607		
203	SW "	"	0Ω	20B611		
204	FM "	"	0Ω	20B614		
205	1st AM IF	5Ω	4.9Ω	20B615		
206	2nd AM IF	5Ω	4.9Ω	20B616		
207	3rd AM IF	11.8Ω	16Ω	20B617		
208	FM 1st IF PRI	.2Ω	0Ω	20B618		
209	FM " " SEC	0Ω		20B619		
210	FM 2nd IF	.3Ω		20B620		
211	FM 3rd IF	.3Ω		20B621		
212	FM 4th IF	.3Ω		20B622		
213	FM Disc. IF	.8Ω	1.5Ω	20B623		
214	RF Choke	.1Ω		17B761		
215	RF Choke	.1Ω		17B761		

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA SCOTT PART No.	REPLACEMENT DATA	INSTALLATION NOTES
216-221 Incl.	Bayonet	6-8	0.15	Brown	49A166		Type 47

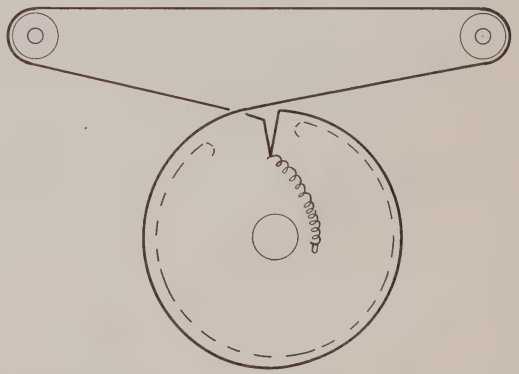
MISCELLANEOUS

ITEM No.	PART NAME	SCOTT PART No.	NOTES
222	Switch	89B509	Selectivity-4 Sect. Rotary-5 Position
223	Bandswitch	89B508	4 Section Rotary - 2 Position
224	Antenna Switch	89B508-2	2 Pole-2 Position Rotary
225	Backplate Rotor Disk	2B890	Pushbutton Tuning System Rotor Assby.
226	AC Power Relay Switch	89B626-1	3 Pole-2 Position Rotary
227	AM-FM Relay Sw.	89B625	AM-FM Change-Over
228	Auto. Muting Relay	89B507	SPST Contacts-Normally Open-2.4V AC
229	Pushbutton Sw. Assby.	89B478	Left-Seven SPST Momentary Contacts
230	" "	89B478	Right- " " " "
231	Auto. Tuning Motor	58B447	Reversible Type-Shaded Pole-24 Volt 60 Cycles
232	Main Tuning Gang	15B475	
233	Fuse, 1 Amp.	37B655	Pushbutton Tuning Transformer Primary
234	Fuse, 3 Amp.	37A162	Power Transformer Primary
235	Relay	69B507	Motor Dial Drive Relay (2 Used-Added after Serial 2000)

PUSHBUTTON ADJUSTMENTS

The pushbuttons may be set up for 6 or more AM stations and 1 to 6 FM stations. The limitations of the pushbuttons are that an AM station can not fall on the same spot physically as that of an FM station. Set the pushbuttons on strong local stations as poor results would be obtained on distant weak stations. The pushbutton tuning drive unit is located at the rear of the receiver chassis. This unit has 12 adjustable knobs set to desired position by turning them with a rotary motion. They are locked in position by a small screw. Each knob is wired to corresponding numbered pushbutton knob. Procede as follows in setting the pushbuttons:

1. Set the Selectivity Control to "M" position and the AM Band Control to "BC" position.
2. Select lowest frequency AM station to be set up and tune the station in manually. Note setting of dial pointer on logging scale at the top of the dial.
3. Set knob number 1 on the back of the receiver to the corresponding number noted on the logging scale and lock by means of the small screw. CAUTION - Never tighten locking screw more than one turn past the point where it touches the backplate.
4. To check, tune to a higher frequency manually; then push button 1 until pointer stops and check setting against original setting. Repeat, only tuning manually to lower frequency. If both readings appear above or below original setting on logging scale, the knob must be moved slightly to correct for error. Two readings should be spaced equally ½ division or less to either side of original setting.
5. Repeat the above operation for each of the pushbuttons from 1 to 12, going from lowest to highest frequency. Pushbuttons 5, 6 and 7 are for FM reception only. and when these are pushed the receiver will automatically switch over to FM reception.



NOTE: Dial cord material is bronze wire - .033 diameter.

DIAL CORD DRIVE

A33
A4
A2
A32
A34
A31
A30
A29
201
77
142
82
81
121
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232
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144
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120
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220
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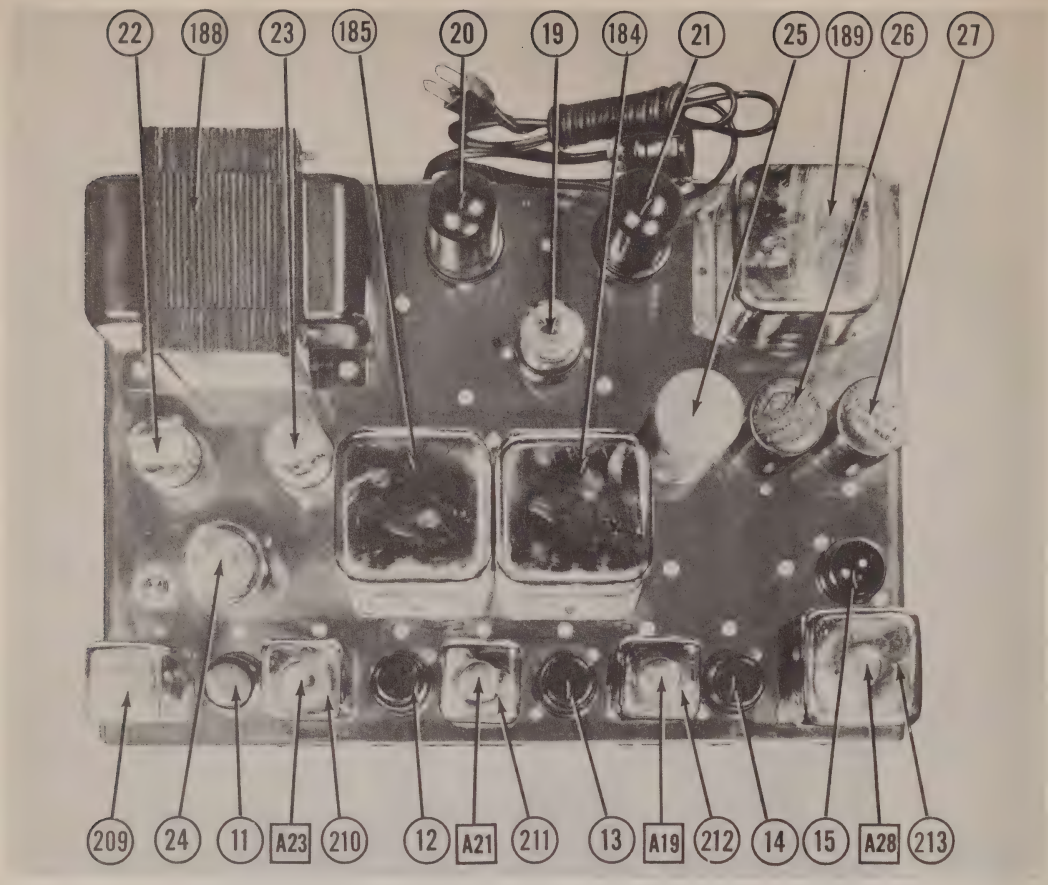
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A23
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A21
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A19
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A28
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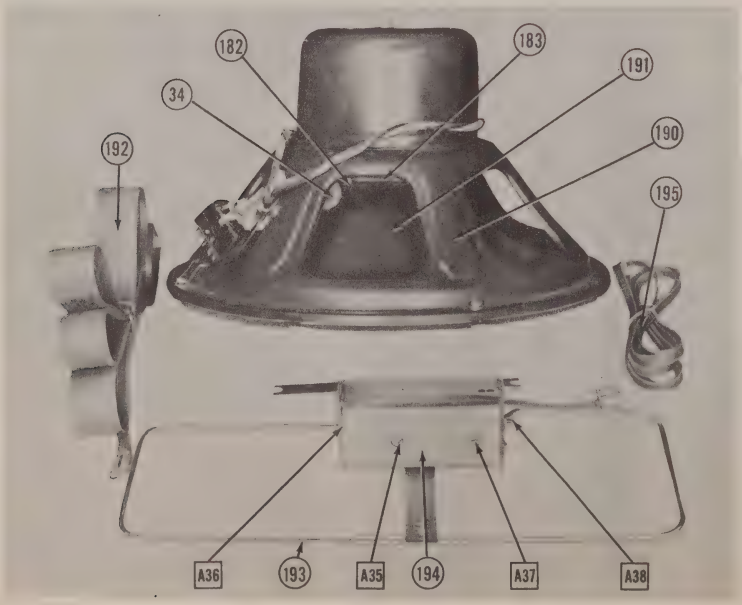
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A37
A38

A25
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170
168
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169
148
214
149
150
151
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A24
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A22
156
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157
61
A20
159
163
160
38
59
164
162
A27
60
56
57
167
166
72
215
165
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158
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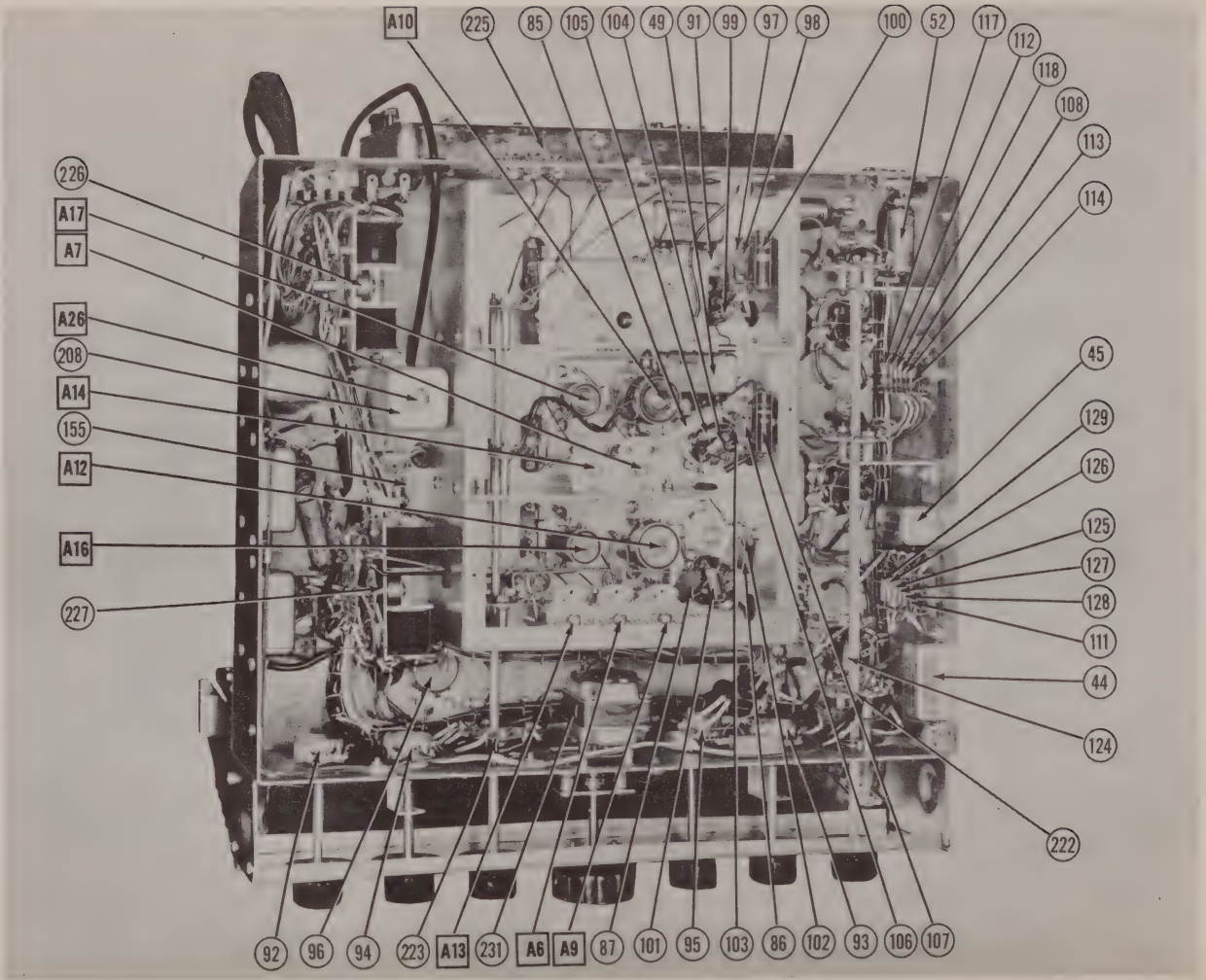
A10
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104
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100
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117
112
118
108
113
114
226
A17
A7
A26
208
A14
155
A12
A16
227
45
129
126
125
127
128
111
44
124
222
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A13
231
A6
A9
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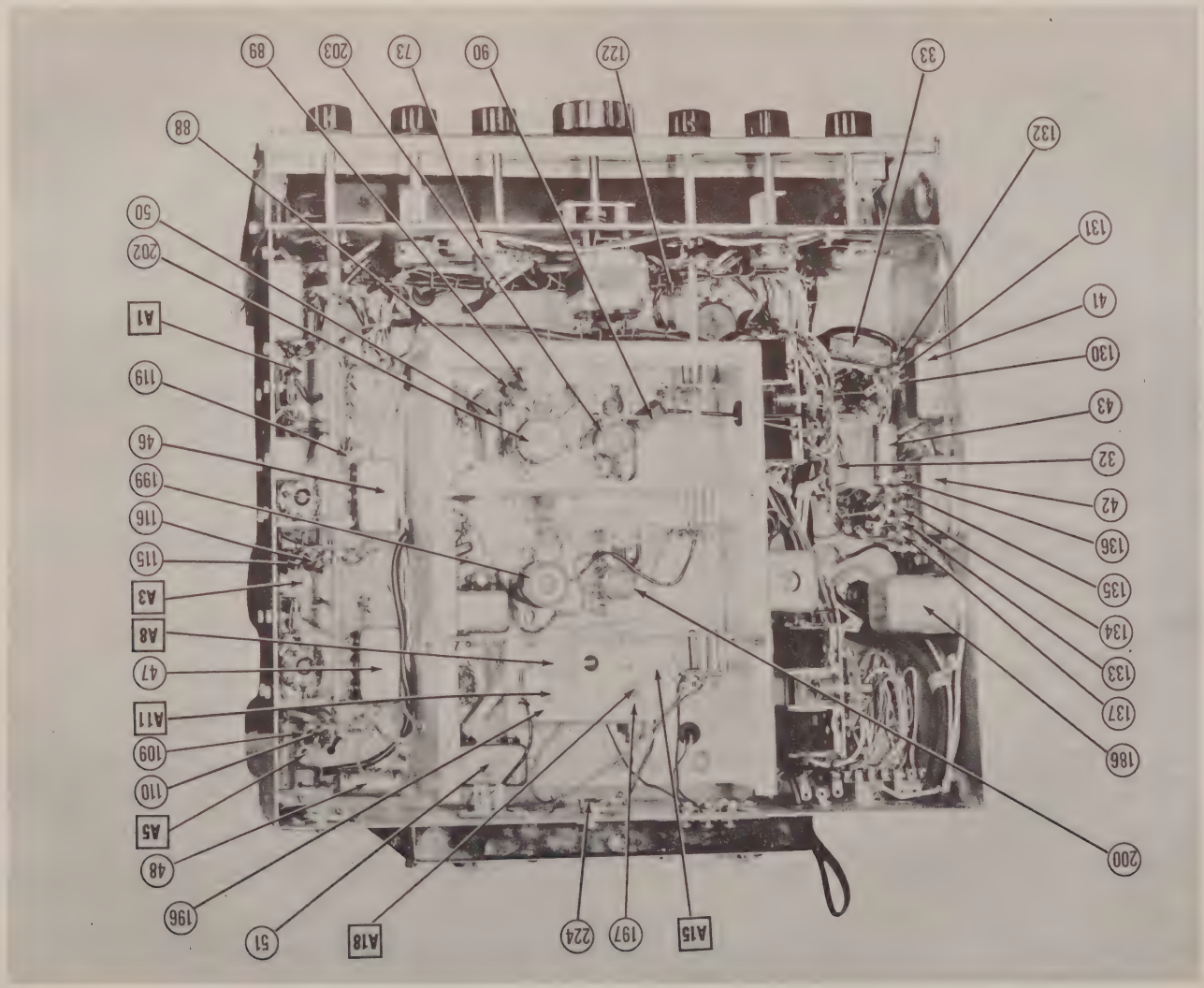
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A1
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199
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115
136
A3
135
A8
134
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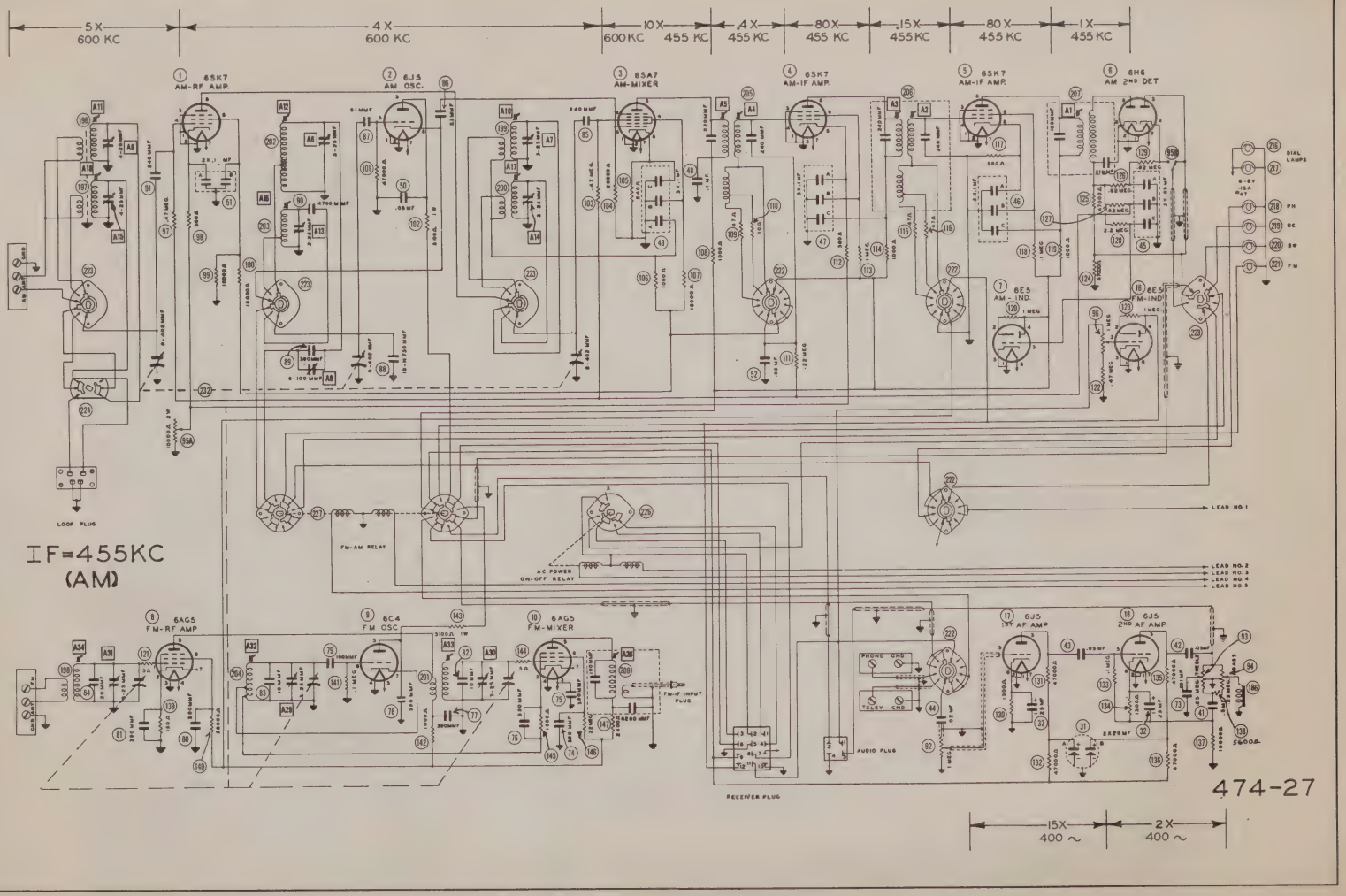
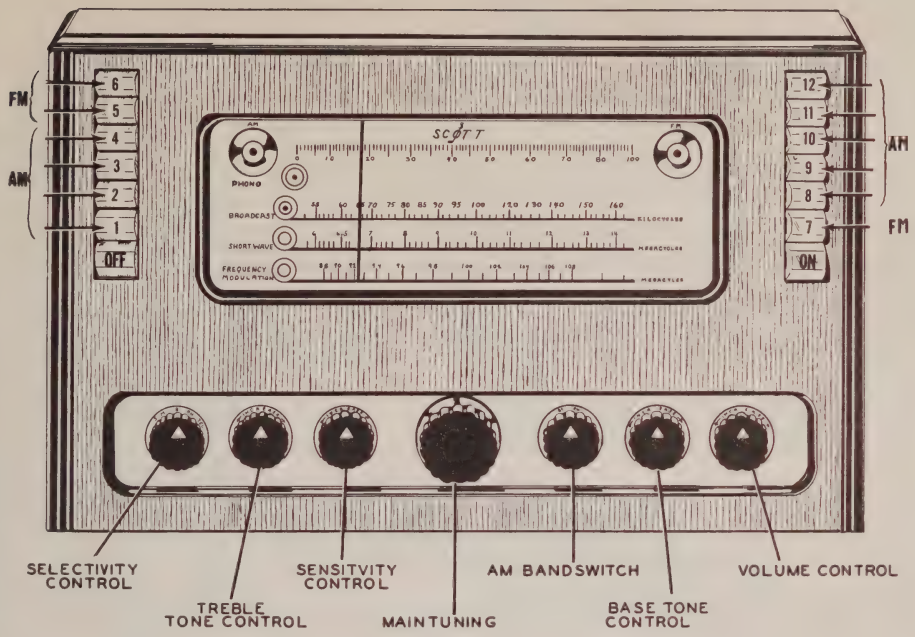
133
A11
137
109
186
110
A5
200
48
196
51
A18
224
197
A15



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

SCOTT
MODEL 800-B



SCOTT MODEL 800-B

TRADE NAME	Scott, Model 800-B
MANUFACTURER	Scott Radio Labs., Inc., 4450 Ravenswood Ave., Chicago, Ill.
TYPE SET	AC Operated FM-AM Combination Radio-Phono Superheterodyne Receiver with Automatic Pushbutton Tuning and Self Contained Loop Antennas.
TUBES (24)	Types, 6SK7GT AM RF Amp., 6J5 AM Osc., 6SA7GT AM Mixer, 6SK7GT AM 1st IF Amp., 6SK7GT AM 2nd IF Amp., 6H6GT AM 2nd Det., 6E5 AM Tuning Indicator, 6AG5 FM RF Amp., 6C4 FM Osc., 6AG5 FM Mixer, 6AC7 FM 1st IF Amp., 6AC7 FM 2nd IF Amp., 6SJ7 FM Limiter, 6SJ7 FM Limiter, 6H6 FM Discriminator, 6E5 FM Indicator, 6J5GT 1st AF Amp., 6J5GT 2nd AF Amp., 6SL7GT Phase Inverter, (2) 6L6G Power Output, (2) 5Y3GT Rectifier, OD3/VR-150 Voltage Regulator
POWER SUPPLY	117 Volts AC
RATING	1.6 Amp. @ 117 Volts AC

FREQUENCY RANGES - BROADCAST - 540-1600KC, SHORT WAVE - 5.9-18.2MC, FM - 88-108MC.

SCOTT
MODEL 800-B PAGE 1

HOWARD W. SAMS & CO., INC. Indianapolis Indiana

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: SCOTT PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	AM RF Amp.	92A226	6SK7GT	8N	
2	AM Osc.	92A228	6J5	6Q	
3	AM Mixer	92A227	6SA7GT	8AD	
4	AM IF Amp.	92A226	6SK7GT	8N	
5	AM IF Amp.	92A226	6SK7GT	8N	
6	AM 2nd Det.	92A229	6H6GT	7Q	
7	AM Indicator	92B479	6E5	6R	
8	FM RF Amp.	92B598	6AG5	7BD	
9	FM Osc.	92B597	6C4	6BQ	
10	FM Mixer	92B598	6AG5	7BD	
11	FM IF Amp.	92A235	6AC7	8N	
12	FM IF Amp.	92A235	6AC7	8N	
13	FM Limiter	92A236	6SJ7	8N	
14	FM Limiter	92A236	6SJ7	8N	
15	FM Discriminator	92A229	6H6	7Q	
16	FM Indicator	92B479	6E5	6R	
17	1st AF Amp.	92A228	6J5GT	6Q	
18	2nd AF Amp.	92A228	6J5GT	6Q	
19	Phase Inverter	92B669	6SL7GT	8BD	
20	Power Output	92A233	6L6G	7AC	
21	Power Output	92A233	6L6G	7AC	
22	Rectifier	92B480	5Y3GT	5T	
23	Rectifier	92B480	5Y3GT	5T	
24	Voltage Regulator	92A237	OD3/VR-150	4AJ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SCOTT PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
25	4	600	15B481	D-4-600	AP-46	GL600-4	KR604		Filter
26A	30	450	15B477	DY-2X30-450	PLS-216	PRS450-30	KRC5220		"
B	30	450				PRS450-30			"
27A	30	450	15B477	DY-2X30-450	PLS-216	PRS450-30	KRC5220		"
B	30	450				PRS450-30			"
28	25	25	15A15			bT25-25		BS26	Cath. Bypass
29	25	50	15B638	M-25-50	TA-525	PRS50-25	BR255	TC36	Output Cath. Bypass
30A	8	450		DHS-2X8-450	UT-88	PRSA450-8-8	EZ8845	2N518	Filter *
B	8	450							"
31A	20	450	15B475	DY-2X20-450	PLS-216	GL450-20-20	KRC5220		AF Plate Decoupling
B	20	450							" " "
32	25	25	15B795	M-25-25	TA-25	PRS25-25	BR252A	TC26	2nd AF Cath. Bypass
33	25	25	15B795	M-25-25	TA-25	PRS25-25	BR252A	TC26	1st AF Cath. Bypass
34	1	200		S-4-1M	TC-10	484-1	DT4W1	TP422	Speaker Crossover
35A	.05	600	15A11	2XDMR6-.05	BP-2056	630- 05-05	DYR60055		Line Bypass
B	.05								" "
36	.05	600	15A13	XDMR6-.05	BP-56	630-05	DYR6005		Audio Coupling
37	.05	600	15A13	XDMR6-.05	BP-56	689-05	TVC6S5	OT106	" "
38A	.25	600	15A425	2XDMR6-.25	BP2256	630-.25-.25	DYR6022	CBD403	FM Lim. Screen Bypass
B	.25	600							FM Lim Plate Decoup.
39A	.05	600	15A11	2XDMR6-.05	BR-2056	630-05-05	DYR60055		FM Ind. Bypass
B	.05	600							FM Lim. Grid Bypass
40	.25	600	15A14	XDMR6-.25	BP-256	630-.25	DYR6025	CB603	FM Lim Plate Decoup.
41	.5	600	15B636	XDMR6-.5	BP-506	630-.5	DYR6050	CB604	Tone Compensation
42	.05	600	15A13	XDMR6-.05	BP-56	630-05	DYR6005		Audio Coupling
43	.05	600	15B639	XT1MS-.05	PX-156	689-05	TVC6S5	OT106	" "
44	.02	600	15A12	XDMR6-.02	PX-126	689-02	TVC6S2	OT103	" "
45A	.05	600	15B599	3XEMR10-.05		630-05-05-05			2nd Det. Cath. Bypass
B	.05	600							AVC Bypass
C	.05	600							FM Ind. Bypass
46A	.1	600	15A10	3XDMR6-.1	BP-316	630-.1-.1-.1	DYR6111	CBT602	IF Amp. Cath. Bypass
B	.1								IF Amp Screen Bypass
C	.1								IF Amp. Plate Decoup.
47A	.1	600	15A10	3XDMR6-.1	BP-316	630-.1-.1-.1	DYR6111	CBT602	IF Amp. Cath. Bypass
B	.1								IF Amp. Screen Bypass
C	.1								IF Amp. Plate Decoup.

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

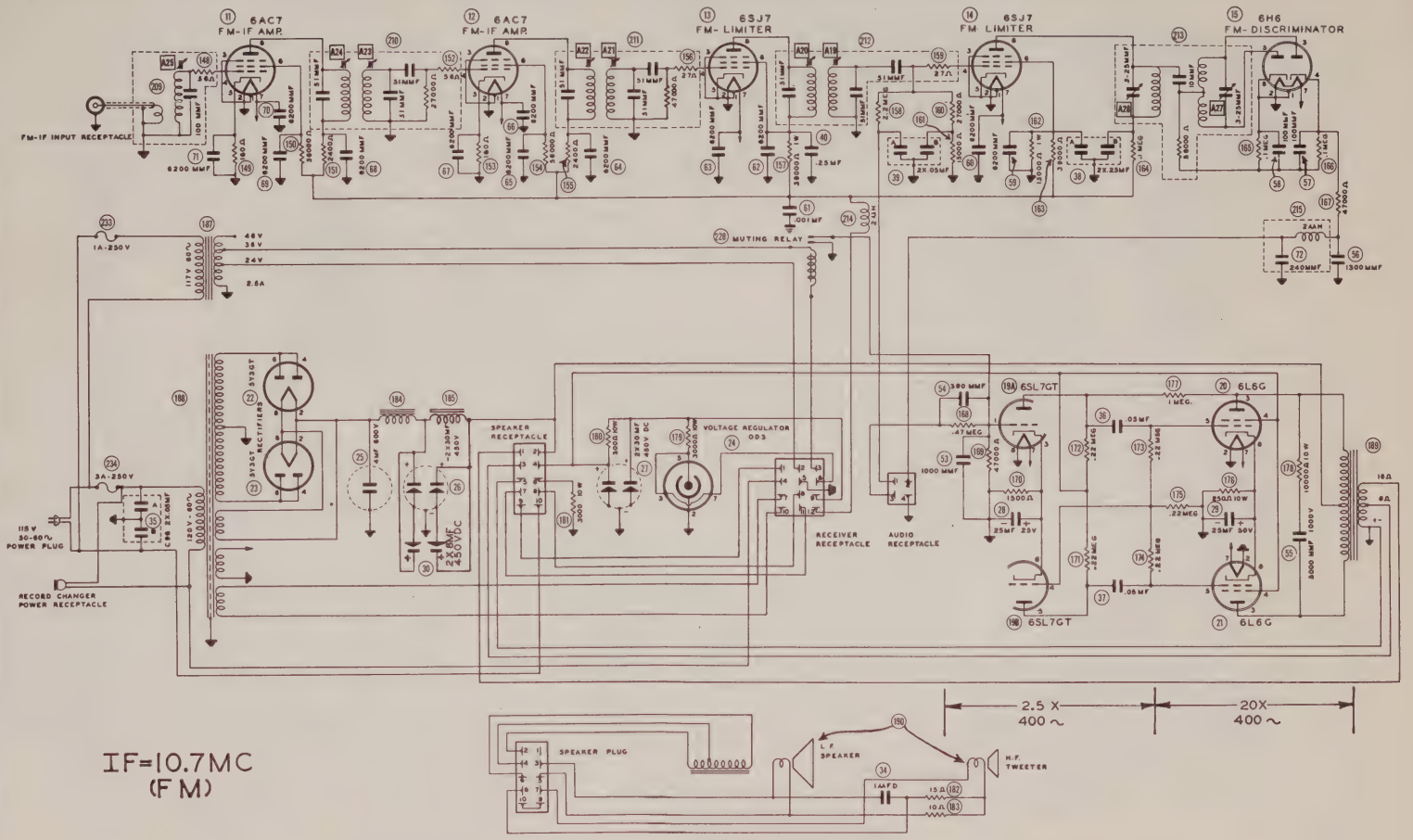
ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SCOTT PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
48	.1	600	15A409	XT1MS6-.1	PX-16	689-.1	TVC6P1	OT110	Mixer Plate Decoup.
49A	.1	600	15A10	3XMR6-.1	BP-316	630-.1-.1-.1	DYR6111	CBT602	Plate Bypass
B	.1	600							Mixer Screen Bypass
C	.1	600							Mixer Cath. Bypass
50	.05	600	15B639	XT1MS6-.05	PX-156	689-05	TVC6S5	OT106	Osc. Plate Bypass
51A	.1	600	15B796	2XDMR6-.1	BP-216	630-.1-.1	DYR6110	CBD602	RF Cath. Bypass
B	.1	600							RF Screen Bypass
52	.05	600	15B639	XT1MS6-.05	PX-156	689-05	TVC6S5	OT106	IF Amp Grid Bypass
53	1000	500	15A35	MO.3-21	1FM-21	1467-001	1W5D1	MC255	Tone Compensation
54	390	500	15B799	MO.5-34	1FM-34	1468-0004	5W5T4	MC243	" "
55	5000	1000	15B763	MW.5-25	1FM-25	1467-005	1D5D5	MC465	Output Plate Bypass
56	1300	500	15A415						De-emphasis
57	100	500	15A428	MOS.5-31	MS-31	1469-0001	5R5T1	MCB235	Disc. Diode Filter
58	100	500	15A428	MOS.5-31	MS-31	1469-0001	5R5T1	MCB235	" " "
59	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	FM Lim. Screen Bypass
60	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	FM Lim. Fil. Bypass
61	10000	500	15A41			1467-01			RF Bypass Pwr. Supp.
62	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	FM Lim. Screen Bypass
63	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	FM Lim. Fil. Bypass
64	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Plate Decoup.
65	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Screen Bypass
66	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Fil. Bypass
67	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Cath. Bypass
68	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Plate Decoup.
69	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Screen Bypass
70	10000	300	15A427	MW.3-11	1FM-11	1467-01	1D351	MC475	IF Amp. Fil. Bypass
71	6200	500	15A40	MW.5-26	1FM-26	1467-006	1D5D6	MC467	IF Amp. Cath. Bypass
72	240	500	15A31	MO.5-325	1FM-325	1468-00025	5W5T25	MC240	Audio Bypass
73	10000	500	15A41			1467-01			Tone Compensation
74	390	500	15B799	MO.5_34	1FM-34	1468-0004	5W5T4	MC243	FM Mixer Screen Bypass
75	390	500	15B799	MO_5-34	1FM-34	1468-0004	5W5T4	MC243	FM Mixer Fil. Bypass
76	390	500	15B799	MO.5-34	1FM-34	1468-0004	5W5T4	MC243	FM Mixer Cath. Bypass
77	390	500	15B799	MO.5-34	1FM-34	1468-0004	5W5T4	MC243	FM RF Plate Decoup.
78	390	500	15B799	MO.5-34	1FM-34	1468-0004	5W5T4	MC34	FM Osc. Plate Bypass
79	100	500	15A428	MOS.5-31	MS-31	1469-0001	5R5T1	MCB235	FM Osc. Grid Capacitor
80	390	500	15A799	MO.5-34	1FM-34	1468-0004	5W5T4	MC243	FM RF Screen Bypass
81	390	500	15A799	MO.5-34	1FM-34	1468-0004	5W5T4	MC243	FM RF Cath. Bypass
82	10	500	15A22						Fixed Trimmer Cer.
83	10	500	15A22						" " "
84	20	500	15B864						" " "
85	240	500	15A31	MO.5-325	1FM-325	1468-00025	5W5T25	MC243	RF Coupling
86	51	500	15A28	MOS.5-45	MS-45	1469-00005	5R5Q5	MCB225	Osc. Coupling
87	51	500	15A28	MOS.5-45	MS-45	1469-00005	5R5Q5	MCB225	AM Osc. Grid Capacitor
88	10	500	15B804						Fixed Trimmer Cer.
89	390	500	15B861	MOS.5- 34	MS-34	1468-0004	5R5T4	MCB243	Fixed Padder
90	4700	500	15B798						" "
91	240	500	15A31	MO.5-325	1FM-325	1468-00025	5W5T25	MC240	RF Coupling

*Not used in all models.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SCOTT PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
92A	1 Meg.	1	70B570	MR53	D13-137	AM-63-Z	Volume Control.
B	Shaft		Not Req.	Not Req.	A	RS-3	Attach to 92A per instructions.
93A	250KΩ	1	70B540	TM221	D13-130X	AT-42	Treble Control
B	Shaft		Not Req.	Not Req.	A	RS-3	Attach to 93A per instructions
94A	250KΩ	1	70B54C	TM221	D13-130X	AT-42	Bass Control.
B	Shaft		Not Req.	Not Req.	A	RS-3	Attach to 94A per instructions
95A	10KΩ	2	70B569	A10MP	W-10K	58-10K ♦	Sensitivity Control See Note 1
95A	10KΩ	2	70B569		W-10K		Sensitivity Control See Note 2
B	Switch		Not Req.		56		Attach to 95A per instructions
96A	1 Meg.	1	70B568	UM159	D11-137	AM-61-S	Tuning Eye Adj. Control
B	Shaft		Not Req.	SS12	E ♯	KSS-3 ♯	Attach to 96A per instructions

Note 1 Use this replacement if sensitivity control does not have switch on rear.
Note 2 " " " " " " has switch on rear.
♯ Use split in knurled shaft for screwdriver slot.
♦ Attach part of old shaft to clarostat shaft by filing half flat on shafts, lap and pin together to get required length.



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

Note: Voltage and resistance readings taken in standard broadcast position except for tube item numbers 8-15 incl. which were measured in FM position.

Controls set as follows: Volume, Selectivity, and Sensitivity controls set at maximum; selectivity control at "sharp", bass at minimum and treble at maximum.

VOLTAGE READINGS

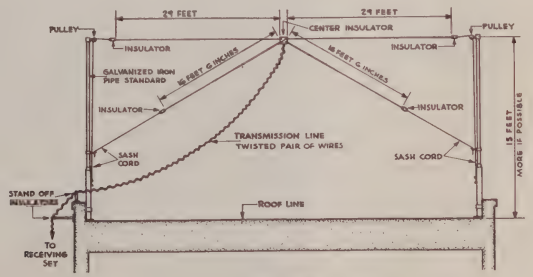
ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
1	6SK7GT	0V.	0V.	0V.	0V.	3.6V.DC	90V.DC	6.4V.AC	245V.DC
2	6J5	0V.	0V.	120V.DC	0V.	-15V.DC	120V.DC	6.4V.AC	0V.
3	6SA7GT	0V.	0V.	250V.DC	97V.DC	-2V.DC	2.4V.DC	6.4V.AC	0V.
4	6SK7GT	0V.	0V.	0V.	0V.	3.4V.DC	92V.DC	6.4V.AC	245V.DC
5	6SK7GT	0V.	0V.	0V.	0V.	3.4V.DC	85V.DC	6.4V.AC	245V.DC
6	6H6GT	0V.	0V.	-2V.DC	.2V.DC	+35V.DC	0V.	6.4V.AC	0V.
8	6AG5	0V.	1.25V.DC	0V.	6.4V.AC	233V.DC	148V.DC	1.25V.DC	
9	6C4	0V.	0V.	6.4V.AC	0V.	118V.DC	-15V.DC	0V.	
10	6AG5	0V.	0V.	6.4 V.AC	0V.	237V.DC	97V.DC	0V.	
11	6AC7	0V.	0V.	0V.	0V.	1.77 V.DC	127V.DC	6.3V.AC	225V.DC
12	6AC7	0V.	0V.	0V.	0V.	1.75V.DC	138V.DC	6.3V.AC	225V.DC
13	6SJ7	0V.	0V.	0V.	-25V.DC	0V.	58V.DC	6.3V.AC	92V.DC
14	6SJ7	0V.	0V.	0V.	-5V.DC	0V.	58V.DC	6.3V.AC	47 V.DC
15	6H6	0V.	0V.	-24V.DC	-6.2 V.DC	-3 V.DC	-12V.DC	6.3V.AC	0V.
17	6J5GT	0V.	0V.	77V.DC	0V.	0V.	17 V.DC	6.4V.AC	2.25V.DC
18	6J5GT	0V.	0V.	89V.DC	157V.DC	13.5 V.DC	162V.DC	6.4V.AC	19 V.DC
19	6SL7GT	0V.	165V.DC	2.05V.DC	0V.	135V.DC	2.05V.DC	6.3V.AC	0V.
20	6L6	0V.	0V.	355V.DC	285V.DC	0V.	0V.	6.3V.AC	22 V.DC
21	6L6	0V.	0V.	360V.DC	285V.DC	0V.	0V.	6.3V.AC	22V.DC
22	5Y3GT	0V.	400V.DC	0V.	400V.AC	0V.	400V.AC	0V.	400V.DC
23	5Y3GT	262V.DC	400V.DC	0V.	400V.AC	285V.DC	400V.AC	0V.	400V.DC
24	0D3	0V.	0V.	147V.DC	0V.	147V.DC	0V.	147V.DC	0V.

RESISTANCE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
1	6SK7GT	0Ω	0Ω	0Ω	1.3MEG.	500Ω	10 KΩ	∞Ω	11KΩ
2	6J5	0Ω	0Ω	15 KΩ	INF.	48KΩ	15KΩ	∞Ω	1.5Ω
3	6SA7GT	0Ω	0Ω	11KΩ	28 KΩ	19KΩ	200Ω	∞Ω	1.3MEG.
4	6SK7GT	0Ω	0Ω	0Ω	INF.	400Ω	11KΩ	∞Ω	110KΩ
5	6SK7GT	0Ω	0Ω	0Ω	52Ω	400Ω	11KΩ	∞Ω	110KΩ
6	6H6GT	0Ω	0Ω	46KΩ	1.7MEG.	92KΩ	INF.	∞Ω	0Ω
8	6AG5	5.5Ω	140Ω	0Ω	∞Ω	11KΩ	66KΩ	140Ω	
9	6C4	INF.	INF.	∞Ω	0Ω	15KΩ	90KΩ	0Ω	
10	6AG5	5.5Ω	970Ω	∞Ω	0Ω	12.4KΩ	230KΩ	970Ω	
11	6AC7	0Ω	0Ω	0Ω	55Ω	145Ω	40KΩ	∞Ω	12.4KΩ
12	6AC7	0Ω	0Ω	0Ω	25KΩ	150Ω	66KΩ	∞Ω	12.4KΩ
13	6SJ7	0Ω	0Ω	0Ω	48KΩ	0Ω	40 KΩ	∞Ω	40KΩ
14	6SJ7	0Ω	0Ω	0Ω	45KΩ	0Ω	40 KΩ	∞Ω	110KΩ
15	6H6	0Ω	0Ω	150KΩ	200KΩ	150KΩ	90KΩ	∞Ω	0Ω
17	6J5GT	0Ω	0Ω	61KΩ	INF.	1MEG.	10 KΩ	∞Ω	1200Ω
18	6J5GT	0Ω	0Ω	61KΩ	5200Ω	100KΩ	5200Ω	∞Ω	11KΩ
19	6SL7GT	175KΩ	230KΩ	1400Ω	200KΩ	230KΩ	1400Ω	∞Ω	0Ω
20	6L6	0Ω	0Ω	10KΩ	10KΩ	360KΩ	INF.	∞Ω	210Ω
21	6L6	0Ω	0Ω	10KΩ	10KΩ	360KΩ	INF.	∞Ω	210Ω
22	5Y3GT	INF.	10KΩ	INF.	35Ω	INF.	35Ω	INF.	10 KΩ
23	5Y3GT	9.7KΩ	10KΩ	INF.	33Ω	9.5KΩ	33Ω	INF.	10 KΩ
24	0D3	0Ω	0Ω	12.7KΩ	INF.	12.7KΩ	INF.	12.7KΩ	INF.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



SCOTT ALL-WAVE SUPER ANTENNA SYSTEM

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

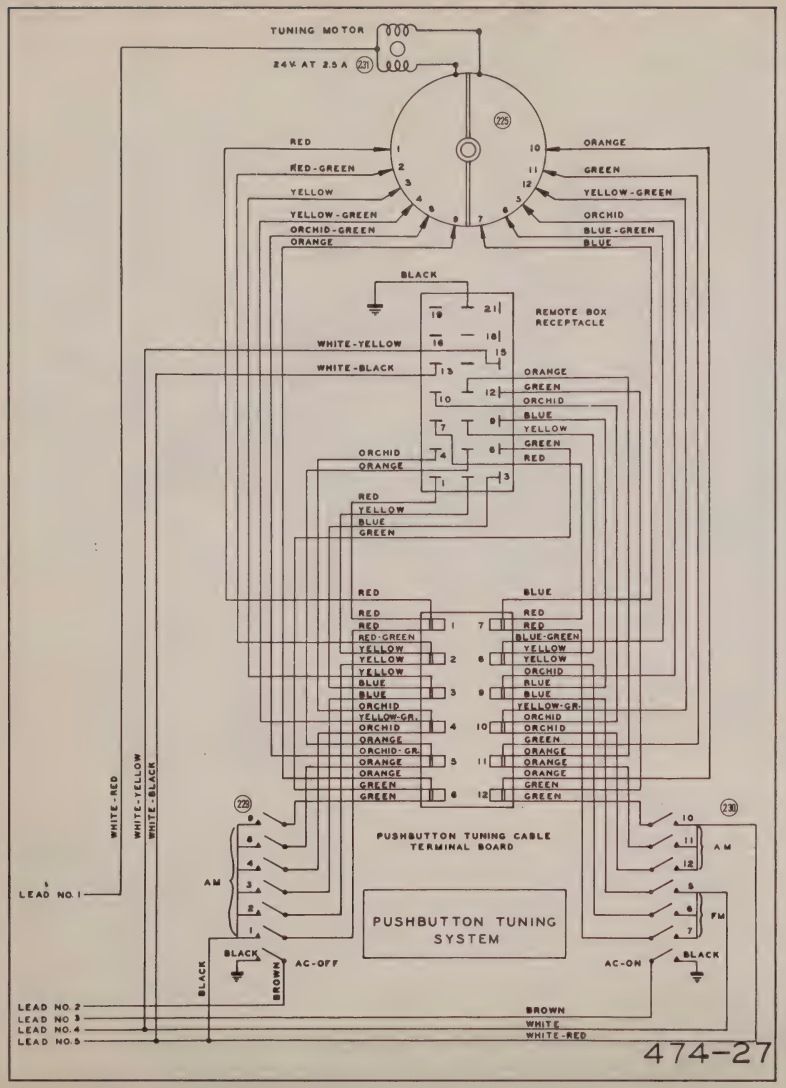
Turn variable fully closed and set pointer at zero mark on the top logging scale. Remove bottom plates from the receiver and power supply chassis.

For AM alignment set controls as follows: Selectivity control at S position, Sensitivity control advanced to maximum just before noise limiter switch throws, Band switch to BC or SW as indicated, Bass and treble controls at maximum and volume control at maximum. Connect output meter across pins 3 and 5 when using 15" Jensen coaxial speaker or across pins 1 and 5 when using 15" Tru-sonic single speaker. Connect center terminal on AM ant. terminal strip to ground. Turn ant. switch (224) to counter-clockwise position. Keep output from signal generator no higher than is necessary to obtain output reading. When aligning SW oscillator, care should be taken that the oscillator operates above the incoming signal. When properly aligned the image will appear 910KC lower on the dial that the signal being received. If the image is not received at this point, decrease A13 in capacity until next peak is heard. Recheck for image as above.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05 MFD.	High side to pin #8 (control grid) of 6SA7. Low side to chassis.	455KC	BC	High freq. end.	See pre-alignment instructions.	A1,A2, A3,A4, A5,	Remove osc. tube (2). Adjust for maximum output.
RMA dummy	High side to AM ant. (see above) Low side to grnd.	1500KC	"	1500KC	"	A6,A7, A8.	Replace osc. tube and adjust for maximum output in order given.
RMA dummy	"	600KC	"	600KC	"	A9,A10, A11.	Adjust for maximum output in order given.
Repeat last two steps until no further increase can be obtained.							
RMA dummy	High side to AM ant. (See above) Low side to grnd.	1000KC	BC	Tune for maximum output.	See pre-alignment instructions.	A12	Check calibration at 1000 KC. If calibration is off, set pointer at 1000 KC and adjust A12 for maximum output.
If A12 required adjustment, repeat the last three steps until no further improvement can be obtained.							
RMA dummy	High side to AM ant. (See above) Low side to grnd.	16MC	SW	16MC	See pre-alignment instruction.	A13	Adjust for maximum output
RMA dummy	"	16MC	"	"	"	A14,A15	Rock variable and adjust for maximum output.
RMA dummy	"	6.5MC	"	6.5MC	"	A16,A17 A18.	Adjust for maximum output in order given.
Repeat last two steps until no further increase can be obtained.							

For FM alignment remove the cover from the main tuning capacitor. Set controls as follows. Bass and treble controls at maximum and volume control at maximum. Push one of the FM pushbuttons to switch the receiver to FM reception. A vacuum tube voltmeter should be connected across the second limiter filter resistor (61) for use as an output meter when aligning FM-IF. Keep input from signal generator at a point where not more that 1.5 volts is obtained on the meter. Connect center terminal on FM ant. terminal strip to ground. For discriminator circuit, RF and osc. alignment use vacuum tube voltmeter connected as stated below.

.01 MFD.	High side to pin #4 (control grid) of FM mixer tube (10). Low side to chassis.	10.7MC with modulation off	FM	High freq. end.	Across second limiter filter resistor.(61) (see above)	A19,A20 A21,A22 A23,A24 A25,A26	Remove FM oscillator tube (9). Adjust for maximum output.
.01 MFD.	"	"	"	"	From pin #4 of disc. tube (15) to gnd.	A27,A28	If meter reads zero, discriminator is properly aligned. If meter reads either plus or minus, detune A27 slightly to give sufficient readingsfor adjusting A28. Adjust A28 for maximum output then readjust A27 for zero reading.
Set signal generator 75KC higher in freq. (10.775 MC) and record meter reading. Set signal generator 75KC lower in freq. (10.625 MC) and record meter reading. These two readings should be identical. If they are not a slight adjustment of A28 should be made so that the readings are identical. A27 should then be checked for zero setting. Set this adjustment carefully as distortion on FM signal will result if incorrectly made.							
50Ω carbon resistor	High side to FM ant. Low side to chassis.	106 MC with modulation off.	FM	106MC	Across second limiter filter resistor (61).	A29,A30 A31	Replace FM oscillator tube (9). Adjust for maximum output in order given.
"	"	90 MC with Mod. off.	"	90MC	"	A32,A33 A34	Adjust for maximum output in order given.
Repeat last two steps until no further increase can be obtained. Reinstall receiver in cabinet. Connect FM ant., BC, and short wave loops to proper terminals. Turn ant. switch (224) clockwise for loop operation. Set selectivity control to "sharp" and set receiver for AM reception.							
	Loop	1500KC	BC	Tune for maximum closing of tuning eye	Remove AM tuning eye from bracket. Turn front of tube toward rear of cabinet. Use as output indicator.	A35	Connect output of signal generator to a few turns of wire and radiate signal into receiver loop. Adjust A35 for maximum closing of the tuning eye.
	"	600KC	"	"	"	A36	"
	"	16MC	SW	"	"	A37	"
	"	6.5MC	"	"	"	A38	"


TUNING MOTOR
24 V. AT 2.5 A
231
225
RED
RED-GREEN
YELLOW
YELLOW-GREEN
ORCHID-GREEN
ORANGE
ORANGE
GREEN
YELLOW-GREEN
ORCHID
BLUE-GREEN
BLUE
BLACK
REMOTE BOX RECEPTACLE
WHITE-YELLOW
WHITE-BLACK
ORANGE
GREEN
ORCHID
BLUE
YELLOW
GREEN
RED
ORCHID
ORANGE
RED
YELLOW
BLUE
GREEN
RED
BLUE
RED
RED
RED-GREEN
YELLOW
YELLOW
YELLOW
BLUE
BLUE
ORCHID
YELLOW-GR.
ORCHID
ORANGE
ORCHID-GR.
ORANGE
ORANGE
GREEN
GREEN
RED
BLUE-GREEN
YELLOW
ORCHID
BLUE
YELLOW-GR.
ORCHID
GREEN
ORANGE
ORANGE
GREEN
GREEN
228
230
PUSHBUTTON TUNING CABLE TERMINAL BOARD
AM
FM
PUSHBUTTON TUNING SYSTEM
BLACK
BROWN
AC-OFF
AC-ON
BLACK
BLACK
WHITE-RED
WHITE-YELLOW
WHITE-BLACK
LEAD NO. 1
LEAD NO. 2
LEAD NO. 3
LEAD NO. 4
LEAD NO. 5
BROWN
WHITE
WHITE-RED

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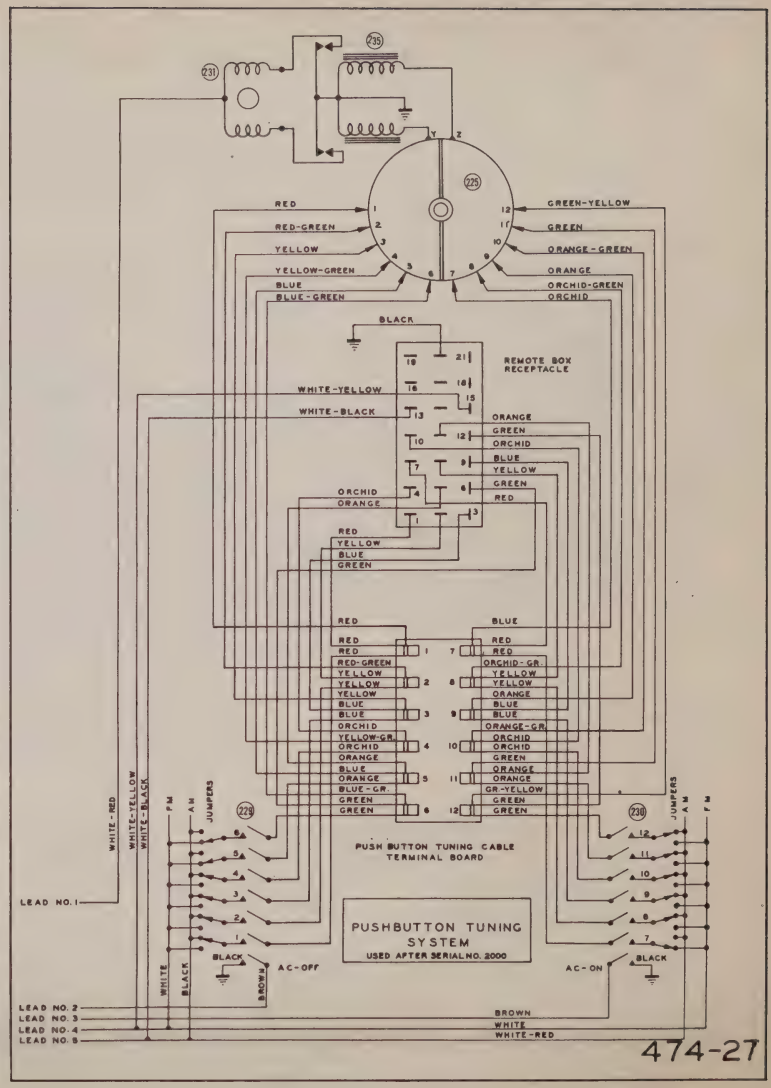
231
235
225
RED
RED-GREEN
YELLOW
YELLOW-GREEN
BLUE
BLUE-GREEN
GREEN-YELLOW
GREEN
ORANGE-GREEN
ORANGE
ORCHID-GREEN
ORCHID
BLACK
REMOTE BOX RECEPTACLE
WHITE-YELLOW
WHITE-BLACK
ORANGE
GREEN
ORCHID
BLUE
YELLOW
GREEN
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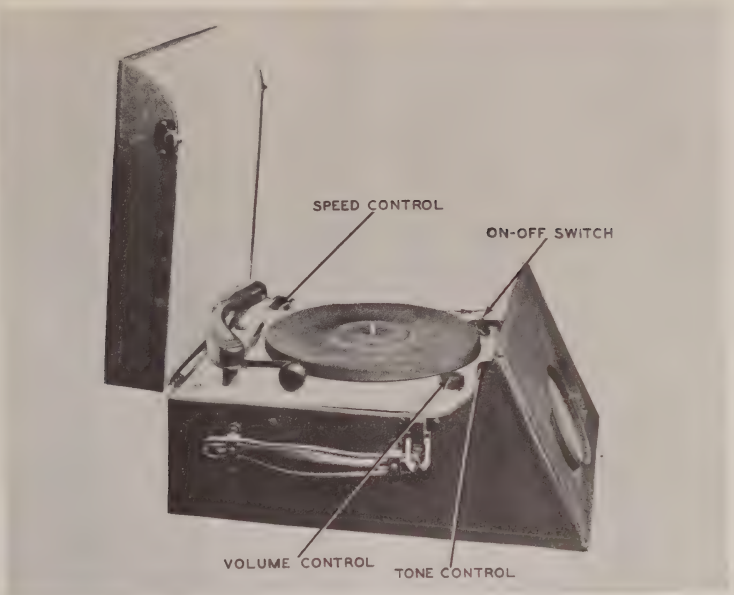
ORCHID
ORANGE
RED
YELLOW
BLUE
GREEN
RED
BLUE
RED
RED
RED-GREEN
YELLOW
YELLOW
YELLOW
BLUE
BLUE
ORCHID
YELLOW-GR.
ORCHID
ORANGE
BLUE
ORANGE
GREEN
GREEN
RED
ORCHID-GR.
YELLOW
YELLOW
ORANGE
BLUE
ORANGE-GR.
ORCHID
GREEN
ORANGE
ORANGE
GR.-YELLOW
GREEN
GREEN
229
230
JUMPERS
FM
AM
PUSH BUTTON TUNING CABLE TERMINAL BOARD
PUSHBUTTON TUNING SYSTEM
USED AFTER SERIAL NO. 2000
WHITE
BLACK
BROWN
AC-OFF
AC-ON
BLACK
WHITE-RED
WHITE-YELLOW
WHITE-BLACK
LEAD NO. 1
LEAD NO. 2
LEAD NO. 3
LEAD NO. 4
LEAD NO. 5
BROWN
WHITE
WHITE-RED

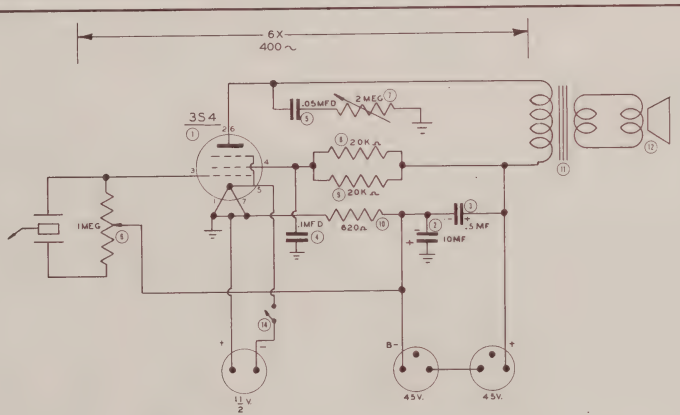
474-27

TRELA
MODEL HW301



TRELA
MODEL HW301

TRADE NAME	Trela, Model HW301
MANUFACTURER	Sonata Electronics Corp., 624 S. Michigan Ave., Chicago 5, Ill.
TYPE SET	Battery Operated Portable Phonograph with One Tube Amplifier & Speaker
TUBES (ONE)	Type, 3S4 AF Amp. & Power Output.
RATINGS	115MA @ 1.55 Volts DC & 12.7MA @ 97 Volts DC
POWER SUPPLY	1½ Volt "A" Battery & 90 Volt "B" Battery



* DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE.

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VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	3S4	0V.	87 V.DC	-2 V.DC	69 V.DC	-1.55 V.DC	87 V.DC	0V.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	3S4	0 Ω	INF.	850 KΩ	INF.	*	INF.	0 Ω

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RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt.
2. Socket connections are shown as bottom view.
3. Measured values are from socket pin to common negative.
4. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: TRELA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Power Output	3S4	3S4	7BA	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TRELA PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
2	10	25		TA-10	PRS25-10	BR10S	TC22	M-10-25	Pwr. Supp. Bypass
3	.5	400		TC-5	484-.5	DT4P5	TP431	S-4-5	" " "
4	.1	200		TC-1	484-.1	DT4P1	TP428	S-4-1	Screen Bypass
5	.05	400		TC-15	484-05	DT4S5	TP426	S-4-05	Tone Compensation

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TRELA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
6A	1 Meg.	1		UM159	D11-137	M-61-S	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 6A per instructions
7A	2 Meg.	1		MR55	D13-139	M-66-Z	Tone Control
B	Shaft			Not Req.	A	Not Req.	Attach to 7A per instructions

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TRELA PART No.	IRC PART No.	IDENTIFICATION CODES
8	20KΩ	½		BTS-22K	Red-Blk.-Or. Screen Dropping
9	20KΩ	½		BTS-22K	Red-Blk.-Or. Screen Dropping
10	620Ω	½		BTS-560	Blue-Red-Br. Bias

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: TRELA PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
11	6000Ω	3.3Ω	410Ω	.4Ω		A-3378	T22S46		

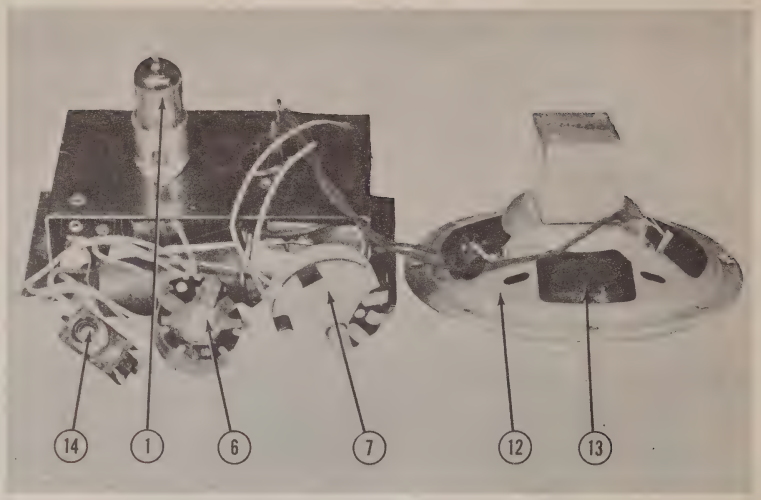
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: TRELA PART No.	JENSEN PART No.		INSTALLATION NOTES
12	FIELD FM	VC IMP. 3.3Ω		ST-105 Mod. P5-X		
13	CONE DIA. 4-5/8"	VC DIA. 1/2"	NOT READILY	REPLACEABLE-USE COMPLETE UNIT.		

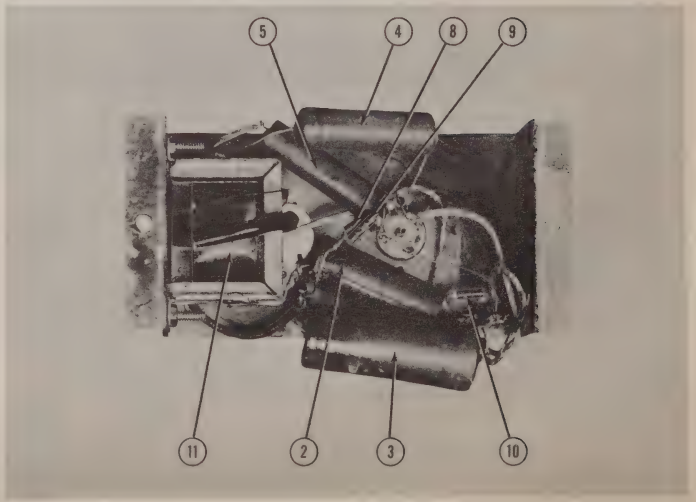
MISCELLANEOUS

ITEM No.	PART NAME	TRELA PART No.	NOTES
14	Switch		On-off (SPST)

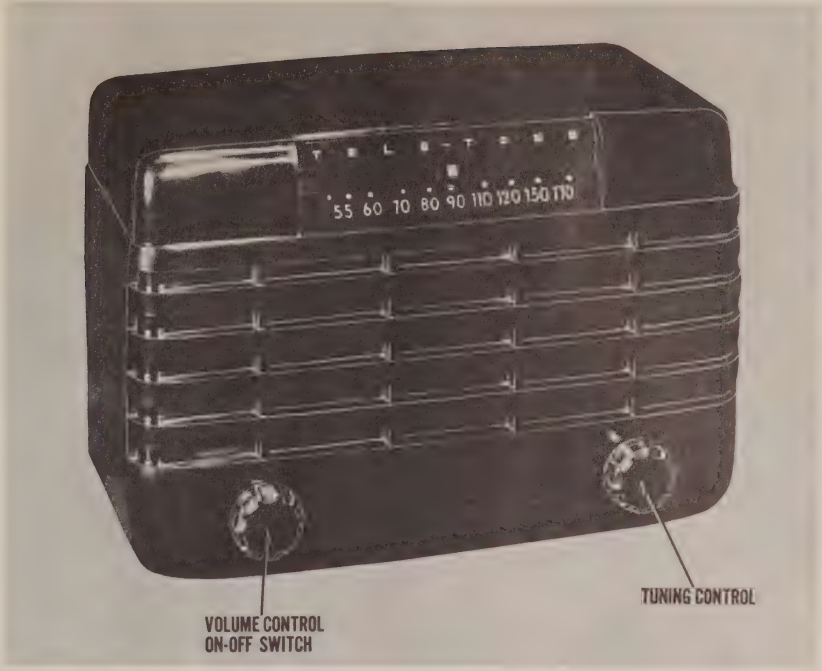
CHASSIS—TOP VIEW



CHASSIS—BOTTOM VIEW



TELE-TONE
MODEL 135



TELE-TONE
MODEL 135

TELE-TONE MODEL 135

TRADE NAME	Tele-Tone, Model 135
MANUFACTURER	Tele-Tone Radio Corp., 609 W. 51st St., New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (FIVE)	Types, 12BE6 Converter, 12BA6 IF Amp., 12AT6 Det.-AVC-AF, 50B5 Power Output, 35W4 Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
TUNING RANGE—BROADCAST	530-1700KC RATING .260 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set left edge of dial pointer ½" from left end of dial backplate. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to rear stator of variable. Low side to B-.	455KC	Variable fully open.	Across voice coil	A1,A2,	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
	Loop	1500KC	Set left edge of dial pointer 3-1/4" from left edge of dial backplate.	"	A3	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
	"	1500KC	Tune for maximum output.	"	A4	"

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		TELE-TONE PART No.	STANDARD REPLACEMENT		
1	Converter	12BE6	12BE6	7CH	
2	IF Amp.	12BA6	12BA6	7CC	
3	Det.-AVC-AF	12AT6	12AT6	7BT	
4	Power Output	50B5	50B5	7BZ	
5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	TELE-TONE PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	
6A	20	150		TA-220	PRSA150-20-20	EZ42215	TN129	DSB-3x20-150	Filter - Blue
B	20	150							" - Green
C	20	150		UT-201	PRS150-20				" - Red
7	.02	400		TC-12	484-02	DT4S2	TP423	S-4-02	Line Filter
8	.02	400		TC-12	484-02	DT4S2	TP423	S-4-02	Output Plate Bypass
9	.01	600		TC-11	684-01	DT6S1	TP404	S-6-01	Audio Coupling
10	.005	600		TC-25	684-005	DT6D5	TP408	S-6-005	" "
11	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	Conv. Cath. Bypass
12	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	Line Isolation
13	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
14	150	500		1FM-215	1468-00015	5W5T15	MC236	MO.5-315	IF Coupling
15	150	500		1FM-215	1468-00015	5W5T15	MC236	MO.5-315	IF Bypass Vol. Cont.

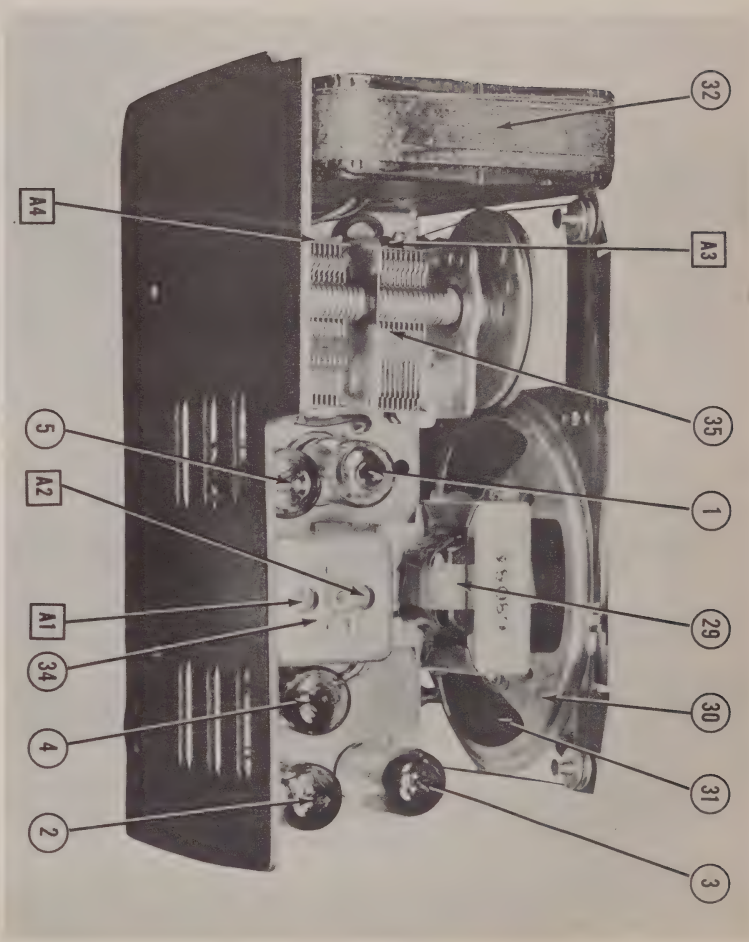
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	TELE-TONE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
16	1 Meg.	1	H-VC2				Volume Control & Switch

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	TELE-TONE PART No.	IRC PART No.	
17	82Ω	½		BW-½-82	Gray-Red-Blk. Converter Cathode
18	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Grid
19	6800Ω	½		BTS-6800	Blue-Gray-Red IF Plate Load
20	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Diode Load
21	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
22	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AF Grid
23	220KΩ	½		BTS-220K	Red-Red-Yl. AF Plate Load
24	470KΩ	½		BTS-470K	Yl.-Vl.-Yl. Output Grid
25	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
26	100Ω	½		BW-½-100	Br.-Blk.-Br. Filter
27	1000Ω	1		BTA-1000	Br.-Blk.-Red "
28	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Diode RF Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		TELE-TONE PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
29	3200Ω	3.5Ω	250Ω	.6Ω	Part of H-SP3	A-3676*	T22S46*		*Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

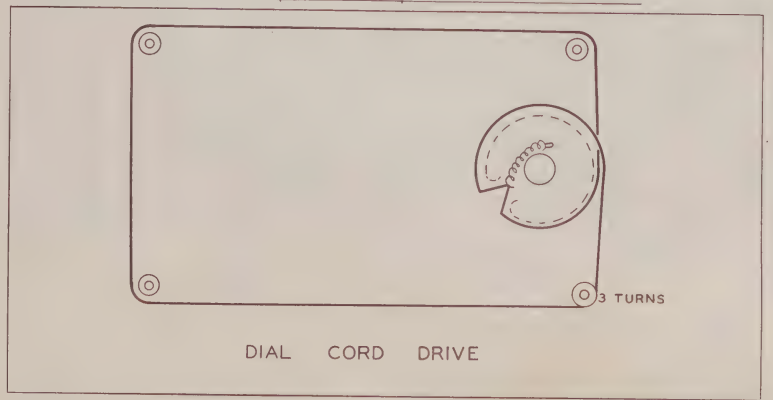
ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			TELE-TONE PART No.	JENSEN PART No.		
	FIELD	VC IMP.				
30	PM	3.5Ω	H-SP3			
	CONE DIA.	VC DIA.				
31	4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	TELE-TONE PART No.	MEISSNER PART No.	
32	Loop Ant.		3Ω			
33	Osc. Coil	.5Ω	6Ω	A-LC-1	14-1040	
34	Input IF	36Ω	22.5Ω	H-LF-4	16-6658	

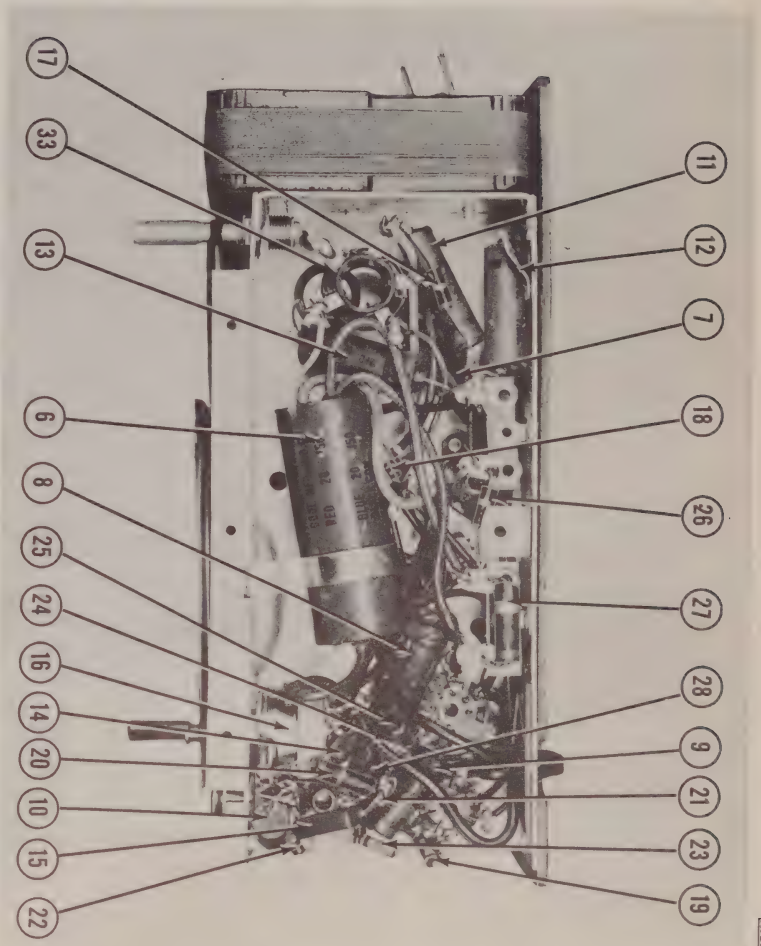
MISCELLANEOUS

ITEM No.	PART NAME	TELE-TONE PART No.	NOTES
35	2 Gang Var. Cap	A-CV1	(35-483 MMF, 25-187 MMF)



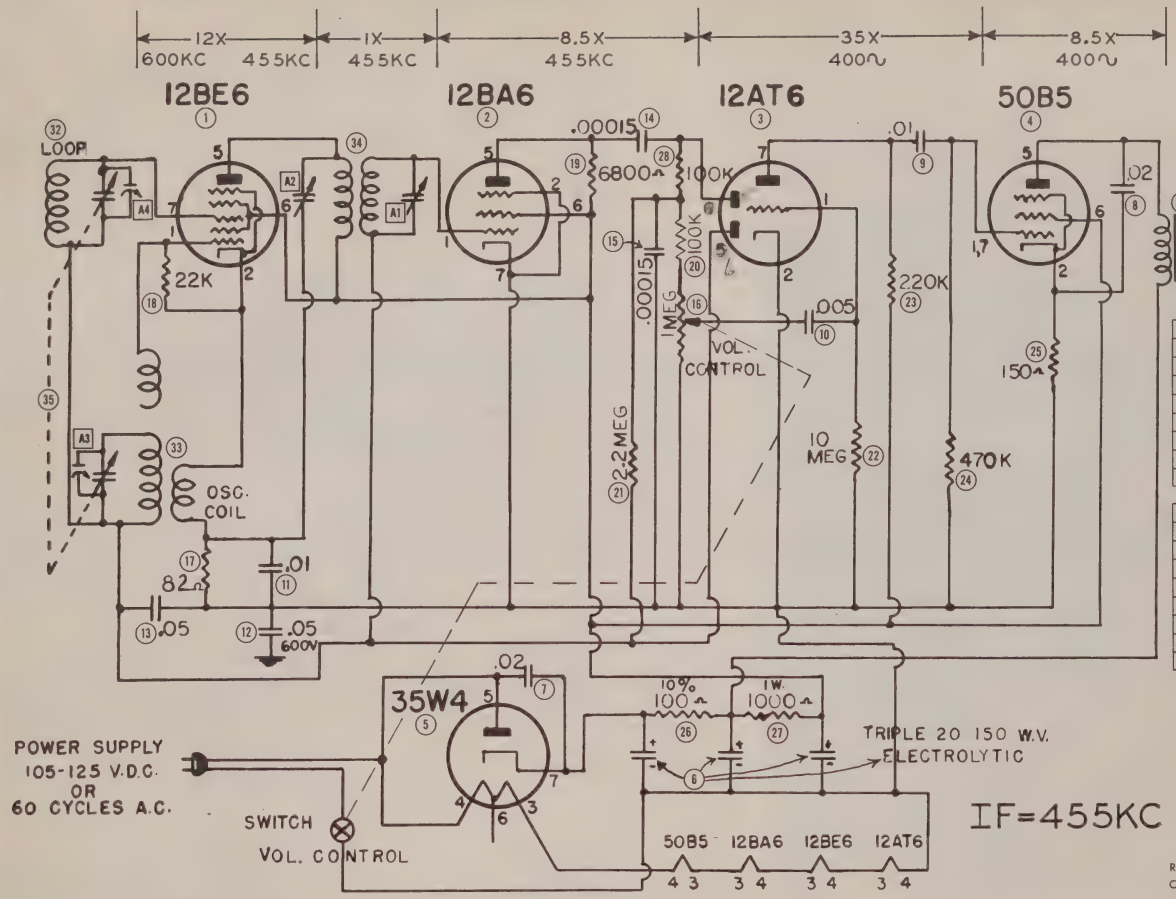
DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



TELE-TONE MODEL 135

TELE-TONE MODEL 135



Pin No.	12BE6 Volt.	12BE6 Res	12BA6 Volt	12BA6 Res.
1	-2.5 V.DC	18KΩ	-2.5 V.DC	3 MEG.
2	.7 V.DC	74Ω	0V.	0Ω
3	24.5 V.AC	22Ω	35 V.AC	33Ω
4	12 V.AC	12Ω	24.5 V.AC	22Ω
5	95 V.DC	560KΩ	35 V.DC	560KΩ
6	95 V.DC	560KΩ	95 V.DC	560KΩ
7	-.5 V.DC	3 MEG.	0V.	0Ω

Pin No.	12AT6 Volt.	12AT6 Res	50B5 Volt	50B5 Res.
1	-.35 V.DC	10 MEG.	0V.	430KΩ
2	0V.	0Ω	6.2 V.DC	140Ω
3	0V.	0Ω	35 V.AC	33Ω
4	12 V.AC	12Ω	72 V.AC	75Ω
5	-.35 V.DC	1.2 MEG.	112 V.DC	560KΩ
6	-.5 V.DC	3 MEG.	95 V.DC	560KΩ
7	57 V.DC	780KΩ	0V.	430KΩ

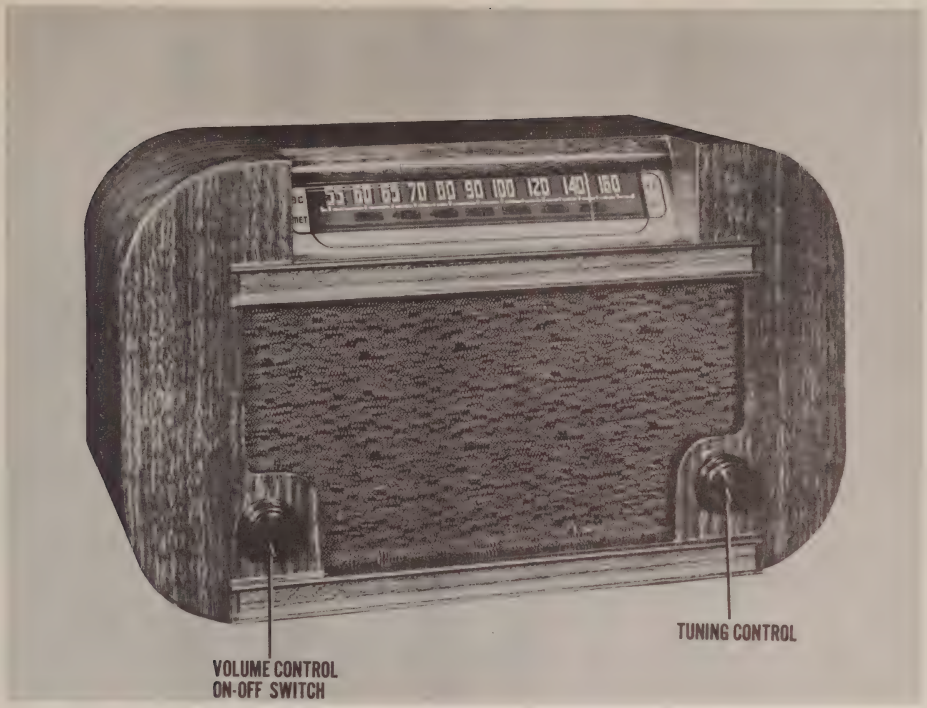
Pin No.	35W4 Volt.	35W4 Res
1	0V.	INF.
2	0V.	INF.
3	72 V.AC	75Ω
4	117 V.AC	100Ω
5	117 V.AC	100Ω
6	110 V.AC	88Ω
7	125 V.DC	560KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 474-29

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



TRUETONE
MODEL D-2622

TRUETONE MODEL D-2622

TRADE NAME	Truetone, Model D-2622
SUPPLIER	Western Auto Supply Co., 2107 Grand Ave., Kansas City, Mo.
TYPE SET TUBES (FIVE)	AC-DC Superheterodyne - Self Contained Loop Antenna Types, 12SA7 Converter, 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540-1630KC RATING .230 Amps. @ 117V AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Set pointer as shown in dial diagram. Use isolation transformer if available. If not, connect capacitor in series with the low side of the signal generator and B-. Set volume control at maximum volume and keep output of signal generator no higher than is necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
250 MMF.	High side to stator to rear section of variable. Low side to B-.	455KC	High freq.end (Variable fully open)	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
250 MMF.	"	1630KC	"	"	A5	" " " "
	Loop	1400KC	Tune for maximum output.	"	A6	Connect output of signal generator to loop of few turns of wire and radiate signal into receiver loop. Adjust for maximum output.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: TRUETONE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	Det.-AVC-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TRUETONE PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	30	150	67A8	TA-330	PRSA150-40-40	EZ42215	TN129	DSB-40+30+20-150	Filter - Yellow
B	30	150							" - Red
C	20	150		UT-201	PRS150-20				" - Blue
6A	50	150	67A3	TA-530	PRSA150-40-40	BRD3515	2N520	M-50+30-150	Filter *
B	30	150							"
7	.05	400	64B1-22	TC-15	484-.05	DT4S5	TP426	S-4-05	Line Filter
8	.2	900	64A2-1	TC-2	684-.2	DT6P2	TP419	S-6-2	Line Isolating
9	.02	400	64B1-24	TC-12	484-.02	DT4S2	TP423	S-4-02	Output Plate Bypass
10	.01	400	64B1-25	TC-11	484-.01	DT4S1	TP421	S-4-01	Audio Coupling
11	.01	400	64B1-25	TC-11	484-.01	DT4S1	TP421	S-4-01	" "
12	.02	400	64B1-24	TC-12	484-.02	DT4S2	TP423	S-4-02	Fixed Padder
13	.1	200	64B1-30	TC-1	484-.1	DT4P1	TP428	S-4-1	AVC Filter
14	.005	600	64B1-12	TC-25	684-.005	DT6D5	TP408	S-6-005	Ant. Coupling
15	500	500	65B7-27	1FM-35	1468-.0005	SW5T5	MC245	MO.5-35	Audio Plate Bypass
16	250	500	65B7-22	1FM-325	1468-.00025	SW5T25	MC240	MO.5-325	RF Bypass Vol. Cont.
17	20	500	65B5-5	MS-42	1468-.00025	SW5Q2	MC220	MO.5-425	Fixed Trimmer
18	50	500	65B7-11	1FM-45	1438-.00005	SW5Q5	MC205	MO.5-45	Osc. Grid Cond.

*Used in earlier models.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TRUETONE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19A	1 Meg.	1	75B1-6	MK402	D13-137	AM-63-2	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 19A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

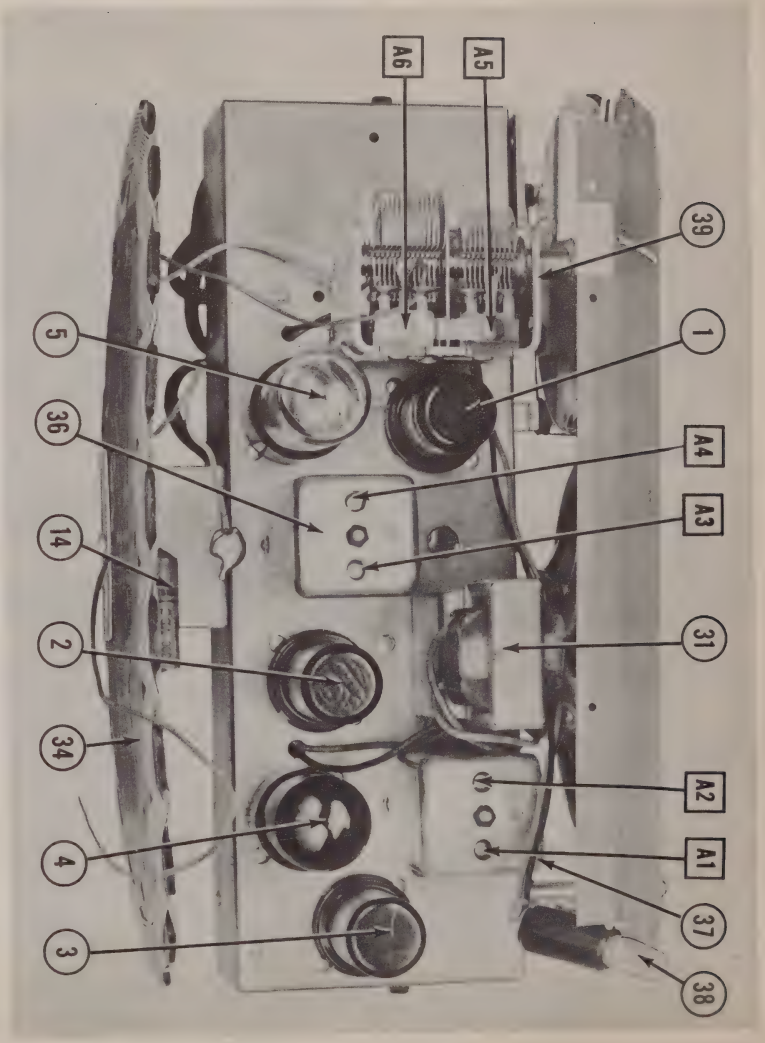
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TRUETONE PART No.	IRC PART No.	IDENTIFICATION CODES
20	22KΩ	½	60B8-223	BTS-22K	Red-Red-Or. Osc. Grid
21	1 Meg.	½	60B8-105	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
22	10 Meg.	½	60B8-106	BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
23	220KΩ	½	60B8-224	BTS-220K	Red-Red-Yl. 1st AF Plate Load
24	470KΩ	½	60B8-474	BTS-470K	Yl.-Vi.-Yl. Output Grid
25	150Ω	½	60B8-151	BW-½-150	Br.-Grn.-Br. Output Cathode
26	150KΩ	½	60B8-154	BTS-150K	Br.-Grn.-Yl. Line Isolating
27	150Ω	1	60B28-1	BW-1-150	Br.-Grn.-Br. Filter
28	1000Ω	1	60B28-2	BTA-1000	Br.-Blk.-Red "
29	33Ω	1	60B28-3	BW-1-33	Or.-Or.-Blk. Surge Limiter †

†Not used in all models.

FILTER CHOKE

ITEM NO.	RATINGS: TOTAL DIRECT CURRENT	RATINGS: D.C. RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000~)	REPLACEMENT DATA: TRUETONE PART NO.	STANCOR PART NO.	THORDARSON PART NO.	INSTALLATION NOTES
30	65 MA	319Ω	3.6H	74A1	C-1711	T20C62	Used in early productions

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		TRUETONE PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
31	2350Ω	3.15Ω	150Ω	.52Ω	Part of 78B4-4	A-3873‡	T2S45‡		‡Bend mounting tabs down and mount on original bracket. File out slots if necessary.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			TRUETONE PART No.	JENSEN PART No.		
32	FIELD PM	VC IMP. 3.15Ω	78B4-4	ST-105 Mod. P5-X		
33	CONE DIA. 4-3/16"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

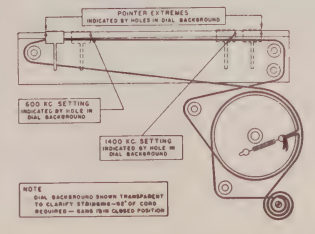
ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	TRUETONE PART No.	MEISSNER PART No.	
34	Loop Ant.	0Ω	1.5Ω	69B4		
35	Osc. Coil		5.5Ω	69A5	14-1040	
36	Input IF	22Ω	22Ω	72B3	16-6658	
37	Output IF	25Ω	23Ω	72B4	16-6660	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					TRUETONE PART No.		
38	Bayonet	6-8	0.15	Brown	61A1-8		Type 47

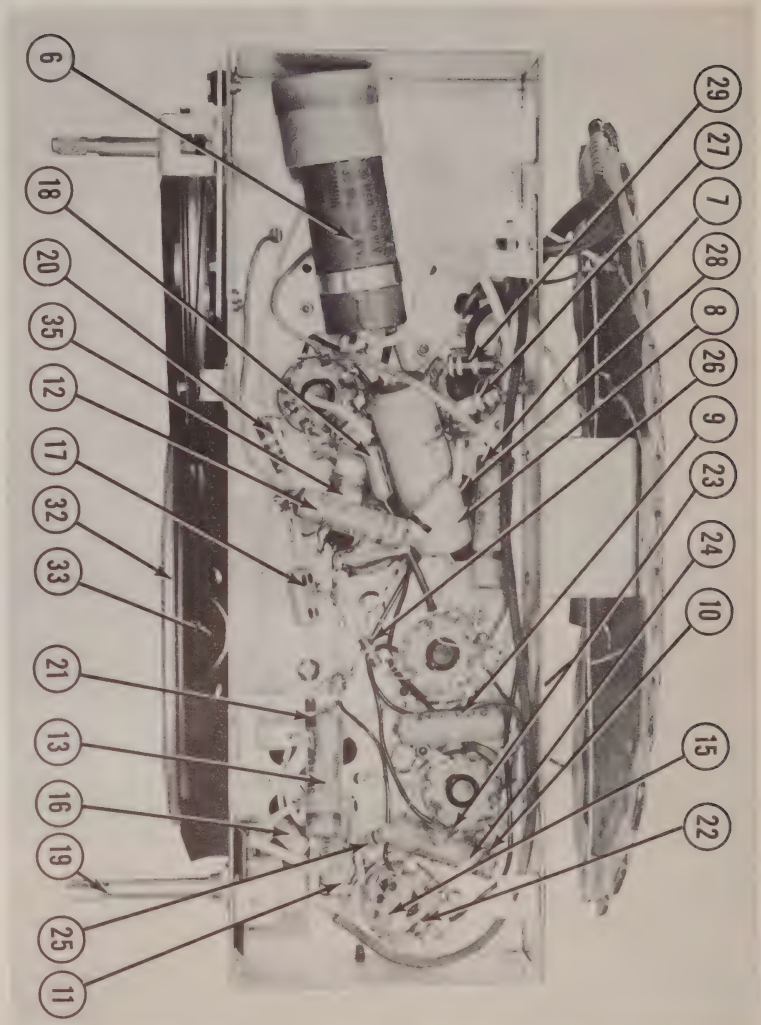
MISCELLANEOUS

ITEM No.	PART NAME	TRUETONE PART No.	NOTES
39	2 Gang Var. Cap. Dial Scale Pointer	68A2 21B26 26A4-1	Trimmers Included


POINTER EXTREMES INDICATED BY HOLES IN DIAL BACKGROUND
600 KC SETTING INDICATED BY HOLE IN DIAL BACKGROUND
1400 KC SETTING INDICATED BY HOLE IN DIAL BACKGROUND
NOTE
DIAL BACKGROUND SHOWN TRANSPARENT TO CLARIFY STRINGING—90° OF CORD REQUIRED — BAND IS IN CLOSED POSITION

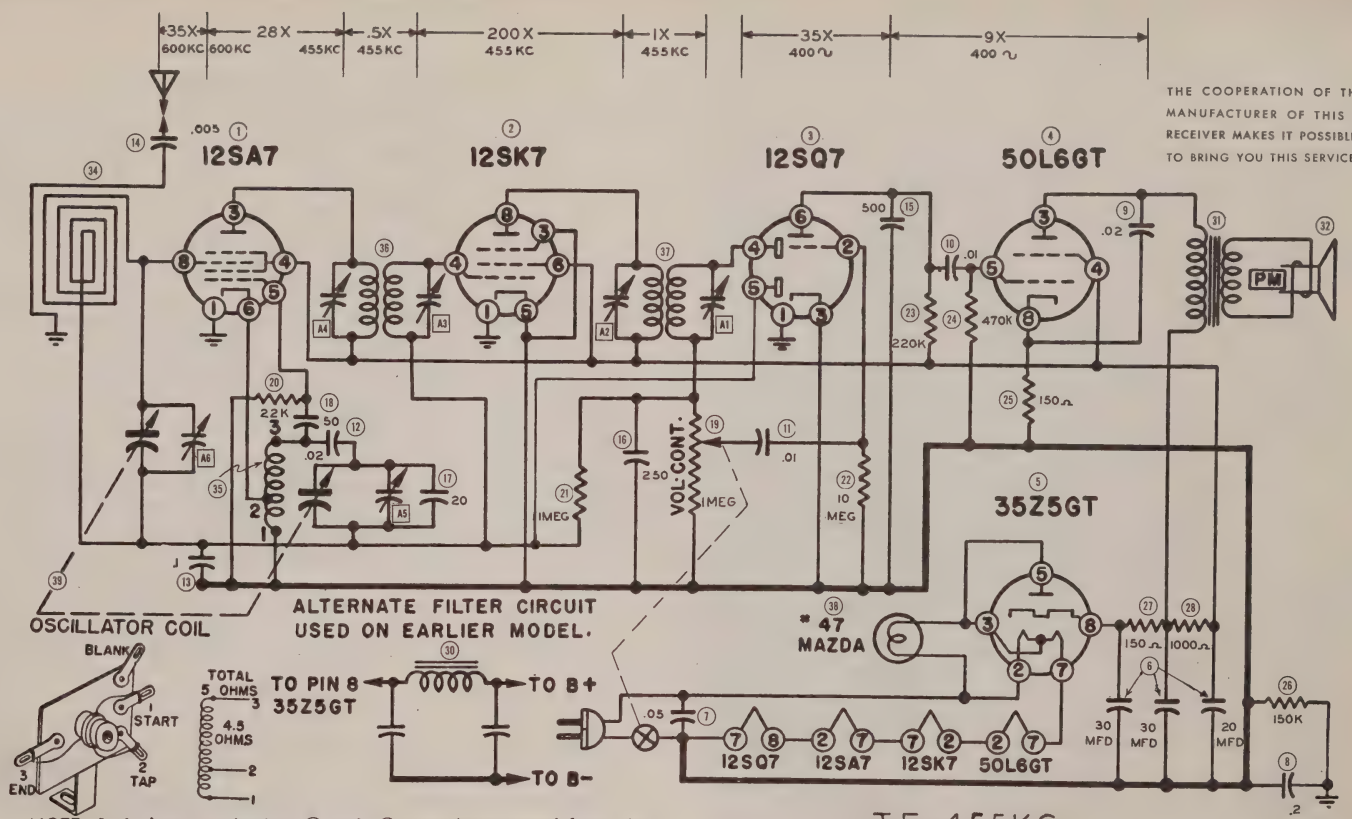
DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



TRUETONE MODEL D2622

TRUETONE MODEL D2622



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

NOTE: 1. In later production (27) and (6A) are disconnected from pin No. 8 of the 35Z5 and a 33-ohm 1-watt resistor ((29)) is connected between pin No. 8 and the junction of (27) and (6A).

IF=455KC

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7	0V.	12V.AC	80V.DC	80V.DC	-2V.DC	0V.	24.5AC	-.35V.DC
2	12SK7	0V.	36.5VAC	0V.	-.35V.DC	0V.	80V.DC	24.5VAC	80V.DC
3	12SQ7	0V.	-.45V.DC	0V.	-.2V.DC	-.2V.DC	53V.DC	0V.	12V.AC
4	50L6	0V.	36.5VAC	100V.DC	80V.DC	0V.	0V.	88VAC	5.2V.DC
5	35Z5	0V.	117VAC	113VAC	111V.DC	113VAC	103V.DC	88VAC	118V.DC

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

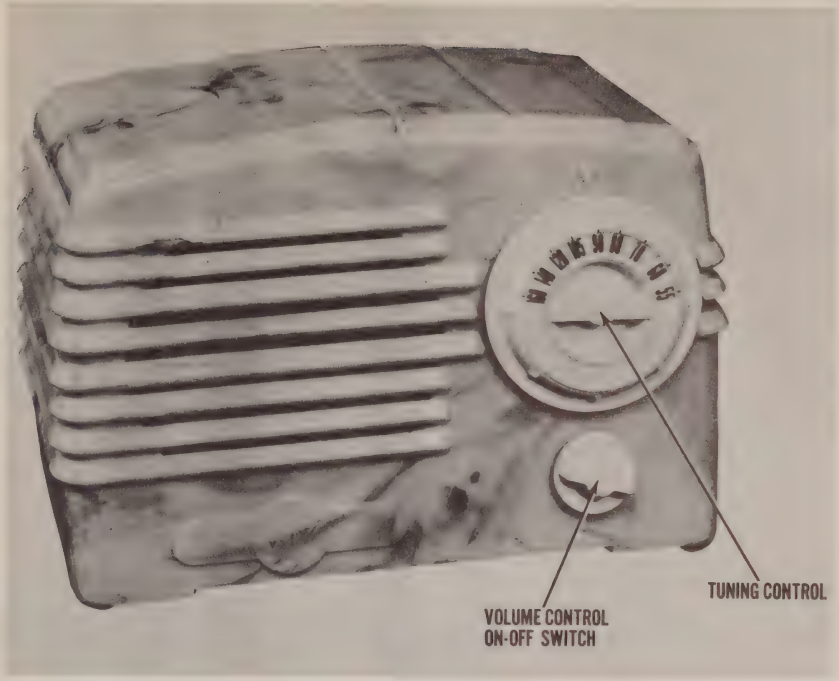
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7	140K	12.5Ω	52KΩ	52KΩ	21KΩ	.5Ω	25Ω	2 MEG
2	12SK7	140 K	35Ω	0Ω	2MEG	0Ω	52KΩ	25Ω	52KΩ
3	12SQ7	INF.	8MEG	0Ω	900KΩ	2 MEG	290KΩ	0Ω	12.5Ω
4	50L6	INF.	35Ω	52KΩ	52KΩ	430KΩ	INF	50Ω	150Ω
5	35Z5	INF.	105Ω	100Ω	52KΩ	100Ω	52KΩ	50Ω	52KΩ

474-30

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



VIZ
MODEL RS-1

VIZ
MODEL RS-1

VIZ MODEL RS-1

TRADE NAME Viz, Model RS-1
MANUFACTURER Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.
TYPE SET AC-DC Operated Superheterodyne Receiver
TUBES (FIVE) Types, 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, Power Output, 35Z5GT Rectifier

POWER SUPPLY 110-120 Volts AC-DC
TUNING RANGE—BROADCAST 530-1650KC RATING .260 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum volume. Output of signal generator should be no higher than necessary to obtain output reading . Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to rear stator of variable. Low side to B-.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
200MMFD	High side to ext. ant. lead. Low side to B-.	1600KC	1600KC	"	A5	Adjust for maximum output.
200MMFD	"	1400KC	Tune for maximum output.	"	A6	" " " "

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: VIZ PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter		12SA7GT	5AD	
2	IF Amp.		12SK7GT	8N	
3	Det.-AVC-AF		12SQ7GT	8Q	
4	Power Output		50L6GT	7AC	
5	Rectifier		35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: VIZ PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	30	150		EL-324	AF64D4A	UP4CJ2	FP313	DY-303	■ Filter
B	20	150							▲ "
C	20	25							Cath. Bypass
7	.05	400		TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
8	.02	400		TC-12	484-02	DT4S2	TP423	S-4-02	Output Plate Bypass
9	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
10	.0005	600		TC-35	1468-0005	DT6T5	TP403	S-6-0005	Audio Plate Bypass
11	.002	600		TC-22	684-002	DT6D2	TP405	S-6-002	Audio Coupling
11	.05	200		TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
13	.002	600		TC-22	684-002	DT6D2	TP405	S-6-002	Ant. Isolation
14	.25	200		TC-2	484-.25	DT4P25	TP430	S-4-25	Line Isolation
15	250	500		1FM-325	1468-00025	5W5T25	MC240	MO.5-325	IF Bypass Vol. Cont.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: VIZ PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
16A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 16A per instructions
C	Switch			M26	41	SW-A	" " " " "

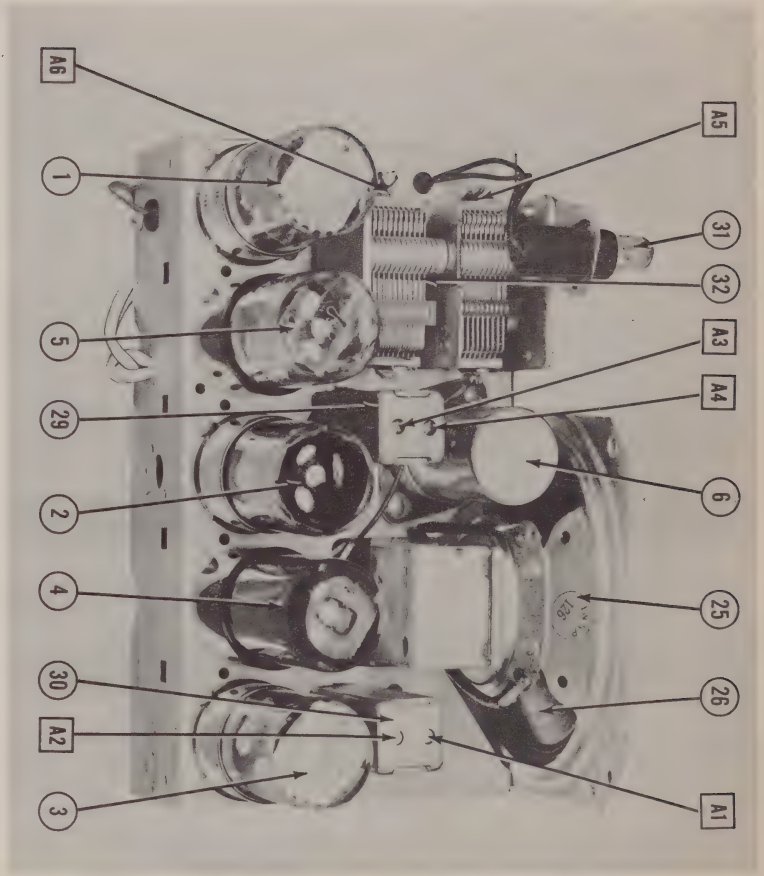
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: VIZ PART No.	IRC PART No.	IDENTIFICATION CODES
17	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Grid
18	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
19	5.1 Meg.	½		BTS-4.7 Meg.	Grn.-Br.-Grn. AF Grid
20	220KΩ	½		BTS-220K	Red-Red-Yl. AF Plate Load
21	510KΩ	½		BTS-470K	Grn.-Br.-Yl. Output Grid
22	150Ω	1		BW-1-150	Br.-Grn.-Br. Output Cathode
23	1000Ω	½		BTS-1000	Br.-Blk.-Red Filter

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: VIZ PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
24	1800Ω	3.3Ω	140Ω	.4Ω		A-3876	T22S45		

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA VIZ PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-113		
25	PM	3.5Ω		Mod. P4-X		
	CONE DIA.	VC DIA.				
26	4"	1/2"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT		

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA VIZ PART No.	REPLACEMENT DATA MEISSNER PART No.	
27	Ant. Coil	37Ω	5Ω			
28	Osc. Coil		10Ω		*14-1040	*Add 50MMF from grid to high side of tuning cap.
29	Input IF	40Ω	40Ω		16-6668	
30	Output IF	41Ω	40Ω		16-6669	

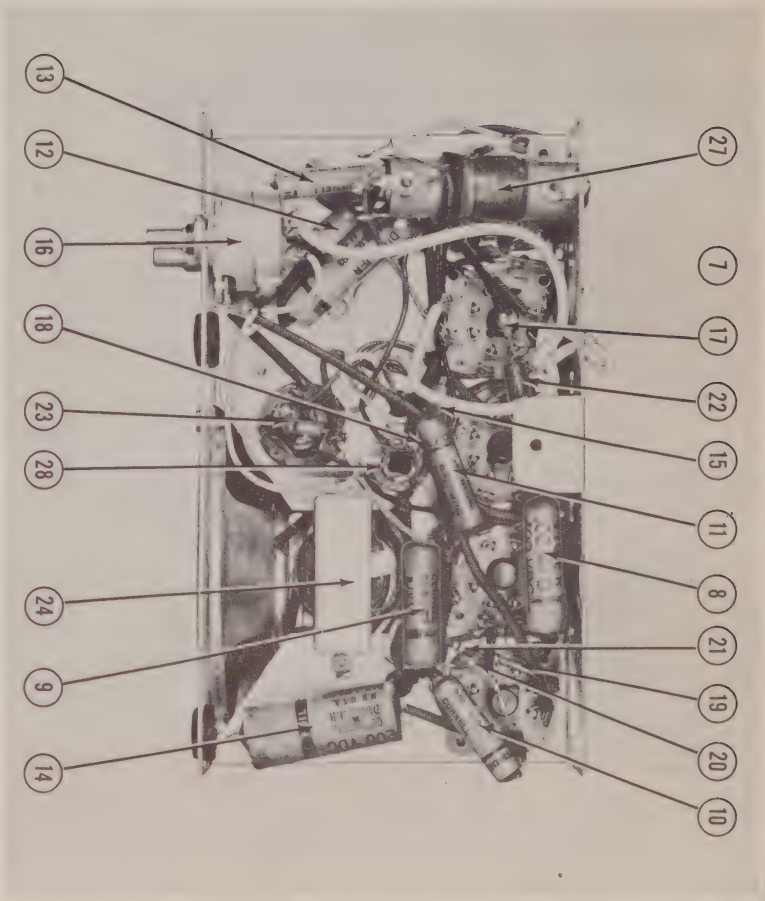
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA VIZ PART No.		INSTALLATION NOTES
31	Bayonet	6-8	0.15	Brown			Type 47

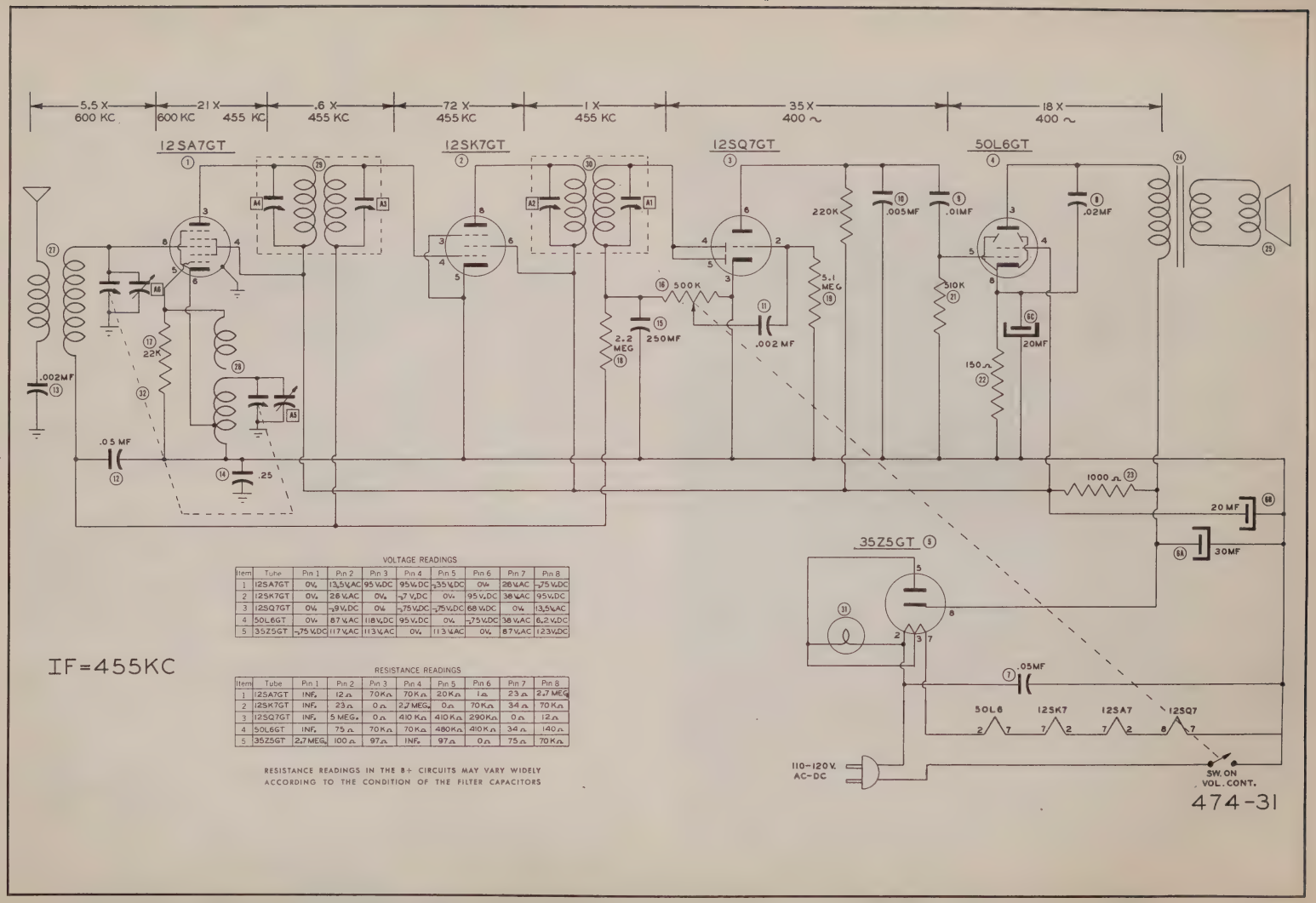
MISCELLANEOUS

ITEM No.	PART NAME	VIZ PART No.	NOTES
32	2 Gang Var. Cap		(26-385 MMF, 32-220 MMF)

CHASSIS—BOTTOM VIEW



VIZ MODEL RS-1



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0V.	13.5V.AC	95 V.DC	95 V.DC	-35 V.DC	0V.	26 V.AC	-7.5 V.DC
2	12SK7GT	0V.	26 V.AC	0V.	-7 V.DC	0V.	95 V.DC	38 V.AC	95 V.DC
3	12SQ7GT	0V.	-9 V.DC	0V.	-7.5 V.DC	-7.5 V.DC	68 V.DC	0V.	13.5 V.AC
4	50L6GT	0V.	87 V.AC	118 V.DC	95 V.DC	0V.	-7.5 V.DC	38 V.AC	6.2 V.DC
5	35Z5GT	-7.5 V.DC	117 V.AC	113 V.AC	0V.	113 V.AC	0V.	87 V.AC	123 V.DC

IF=455KC

RESISTANCE READINGS

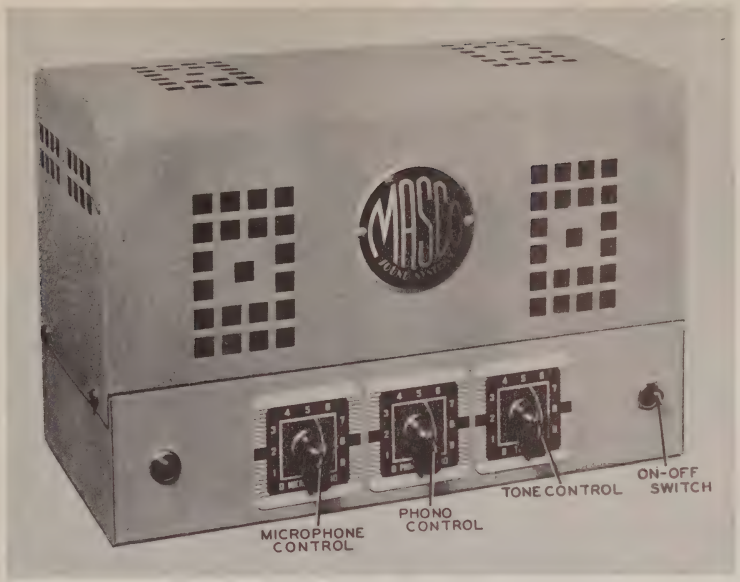
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	INF.	12 Ω	70 KΩ	70 KΩ	20 KΩ	1 Ω	23 Ω	2.7 MEG
2	12SK7GT	INF.	23 Ω	0 Ω	2.7 MEG	0 Ω	70 KΩ	34 Ω	70 KΩ
3	12SQ7GT	INF.	5 MEG.	0 Ω	410 KΩ	410 KΩ	290 KΩ	0 Ω	12 Ω
4	50L6GT	INF.	75 Ω	70 KΩ	70 KΩ	480 KΩ	410 KΩ	34 Ω	140 Ω
5	35Z5GT	2.7 MEG.	100 Ω	97 Ω	INF.	97 Ω	0 Ω	75 Ω	70 KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

MASCO
MODELS MA-17, MA-17 P



MASCO MODEL MA-17

TRADE NAME	Masco, Models MA-17, MA-17P
MANUFACTURER	Mark Simpson Mfg. Co., 32-28 49th St., Long Island City, New York
TYPE SET	AC Operated 5-Tube Amplifier
TUBES (FIVE)	Types, 7C7 Mike Amp., 6SL7 AF Amp., & Phase Inverter, (2) 6L6GA Power Output, 5Y3G Rectifier.
POWER SUPPLY 110-120 Volts AC	RATING .900 Amp. @ 117 Volts AC

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7C7	*25V.DC	29V.DC	23V.DC	0V.	0V.	-.7 V.DC	0V.	*25V.DC
2	6SL7	0V.	135V.DC	1.5V.DC	0V.	135 V.DC	1.5 V.DC	*25V.DC	*25V.DC
3	6L6GA	0V.	*25V.DC	330V.DC	330V.DC	0V.	0V.	*25V.DC	25V.DC
4	6L6GA	0V.	*25V.DC	330V.DC	330V.DC	0V.	0V.	*25V.DC	25V.DC
5	5Y3G	0V.	350V.DC	0V.	330V.AC	0V.	330V.AC	0V.	350V.DC

* 6.6 V.AC MEASURE BETWEEN FILAMENT PINS.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7C7	180Ω	640KΩ	3.1 MEG	0Ω	0Ω	15 MEG	0Ω	180Ω
2	6SL7	12KΩ	360KΩ	940 Ω	220KΩ	360KΩ	940 Ω	180Ω	180Ω
3	6L6GA	INF.	180Ω	140 KΩ	140KΩ	580KΩ	INF.	180Ω	180Ω
4	6L6GA	0Ω	180Ω	140 KΩ	140KΩ	680KΩ	INF.	180Ω	180Ω
5	5Y3G	INF.	140KΩ	INF.	48Ω	INF.	44Ω	INF.	140KΩ

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: MASCO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mic. Amp.	7C7	7C7	8V	
2	AF-Phase Inv.	6SL7	6SL7	8BD	7F7 Alternate
3	Power Output	6L6GA	6L6GA	7AC	
4	" "	6L6GA	6L6GA	7AC	
5	Rectifier	5Y3GT	5Y3GT	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MASCO PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	8	450		UT-88	PRSA450-8-8	EZ8845	2N518	DSB-2x8-450	Filter-Red
B	8	450							" - "
7A	8	450		UT-88	PRSA450-8-8	EZ8845	2N518	DSB-2x8-450	" - "
B	8	450							" - "
8	10	50		TA-510	PRS50-10	BR105	TC32	M-10-50	Cath. Bypass
9	.1	600		TC-1	684-.1	DT6P1	TP418	S-6-1	Line Bypass
10	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
11	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	" "
12	.005	400		TC-25	484-005	DT6D5	TP408	S-6-005	Tone Compensation
13	.01	400		TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
14	.1	600		TC-1	684-.1	DT6P1	TP418	S-6-1	Mic. Amp. Screen Bypass
15	.005	600		TC-25	684-005	DT6D5	TP408	S-6-005	Mic. Coupling

CONTROLS

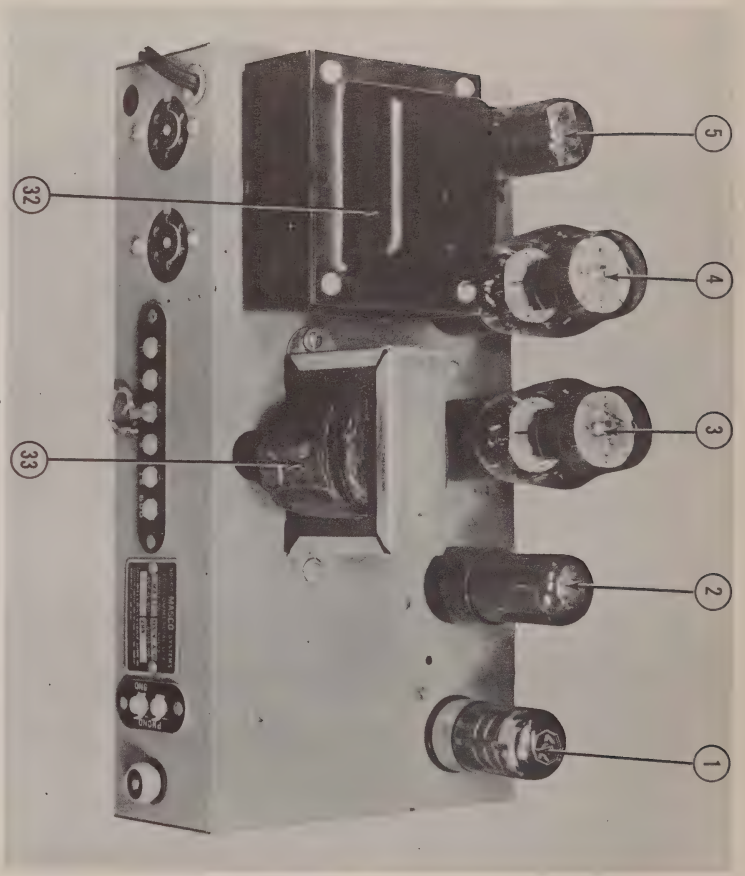
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MASCO PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
16A	500KΩ	1		MR48	D13-133	M-60-Z	Mike Control
B	Shaft			Not Req.	A	Not Req.	Attach to 16A per instructions.
17A	500KΩ	1		MR48	D13-133	M-60-Z	Phono Control
B	Shaft			Not Req.	A	Not Req.	Attach to 17A per instructions.
18A	500KΩ	1		MR48	D13-133	M-60-Z	Tone Control
B	Shaft			Not Req.	A	Not Req.	Attach to 18A per instructions.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MASCO PART No.	IRC PART No.	IDENTIFICATION CODES
19	15 Meg.	½		BTS-15 Meg.	Br.-Grn.-Blue-Mic. Amp. Grid
20	3 Meg.	½		BTS-3.3 Meg.	Or.-Blk.-Grn. Mic Amp. Screen Dropping
21	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Mic. Amp. Plate Load
22	100KΩ	½		BTS-100K	Br.-Blk.-Red AF Cathode
23	220KΩ	½		BTS-220K	Red-Red-Yl. AF Plate Load
24	220KΩ	½		BTS-220K	Red-Red-Yl. Phase Inverter Plate Load
25	12KΩ	½		BTS-12K	Br.-Red-Or. Phase Inverter Grid
26	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
27	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
28	200Ω	10		AB-200	Output Cathode
29	51KΩ	½		BTS-47K	Grn.-Br.-Or. Voltage Dropping-See Note 1
30	12KΩ	½		BTS-12K	Br.-Red-Or. Voltage Dropping

Note 1 - Not used in all models.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

FILTER CHOKE

ITEM NO.	RATINGS			REPLACEMENT DATA			INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000~)	MASCO PART NO.	STANCOR PART NO.	THORDARSON PART NO.	
31	.125A	130Ω	3.2 Henries	C-178	C-2303	T20C54	

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	MASCO PART No.	STANCOR PART No.	THORDARSON PART No.	INSTALLATION NOTES
32	117V AC @ .9A	670V CT @ .125A	5.0V AC @ 1.8A	6.6V AC @ 2.4A	MA-17A	P-8014	T22R05	

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		MASCO PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
33	7200Ω CT	2Ω 4Ω 8Ω 15Ω 500Ω	100Ω CT	.25Ω .3Ω .35Ω .5Ω 22Ω	O-17		T-2386*		*Drill new mounting holes.

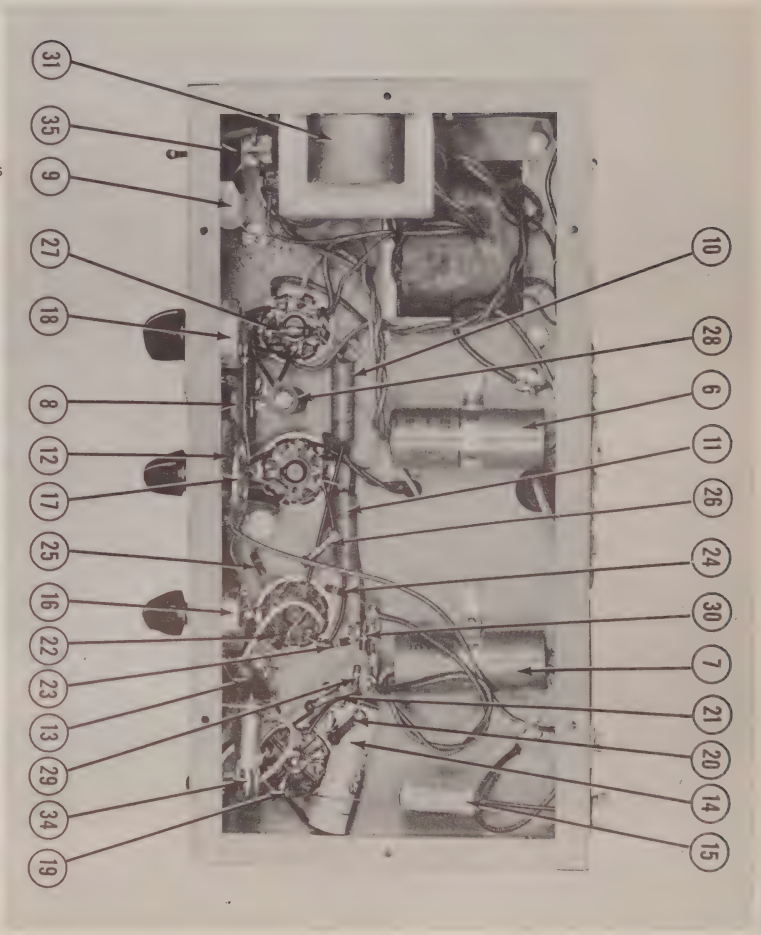
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					MASCO PART No.		
34	Bayonet	6-8	0.15	Brown			Type #47

MISCELLANEOUS

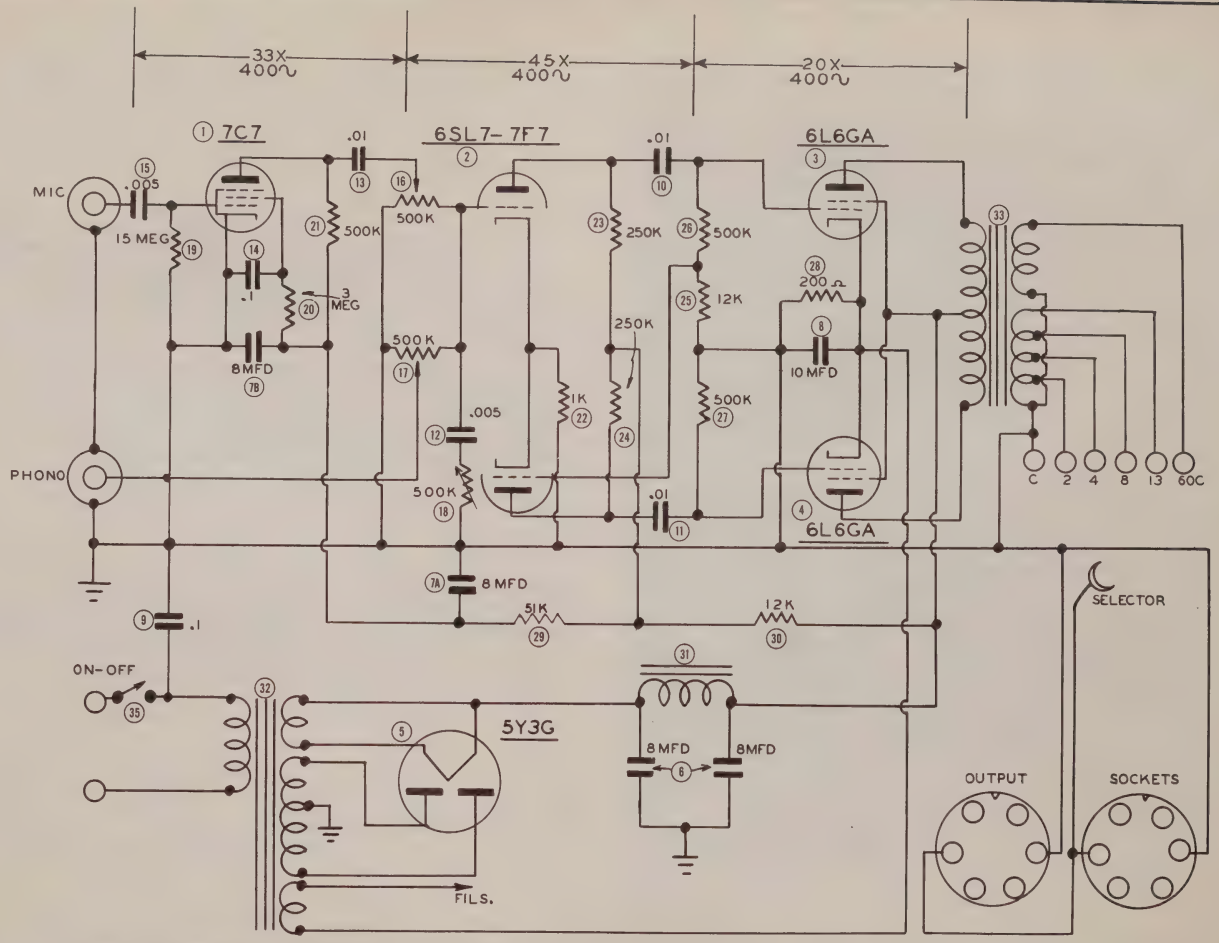
ITEM No.	PART NAME	MASCO PART No.	NOTES
35	Switch		On-Off (SPST)

CHASSIS—BOTTOM VIEW



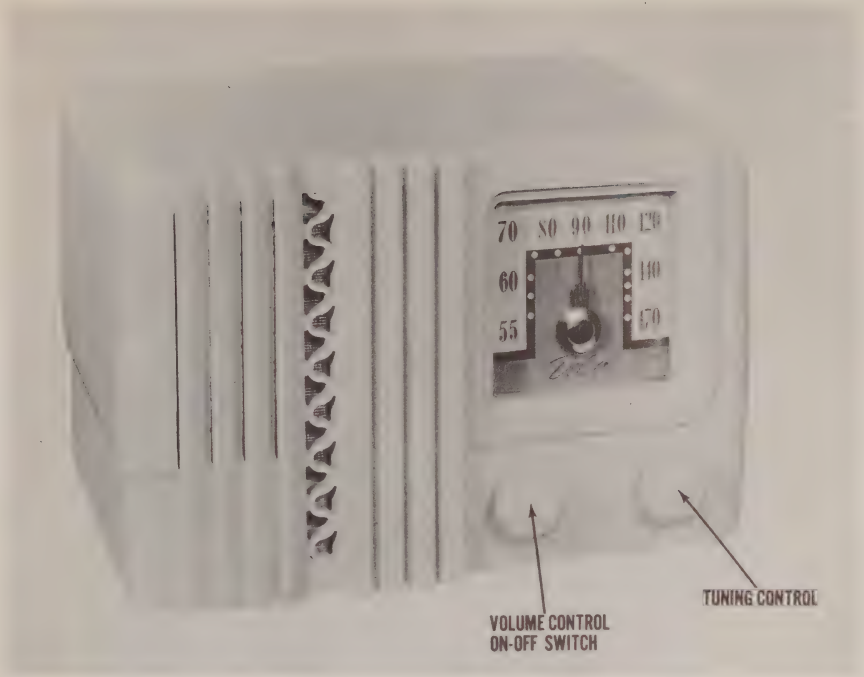
MASCO MODELS MA-17, MA-17P

MASCO MODELS MA-17, MA-17P



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

DELCO
MODELS R-1230 A, R-1231 A, R-1232 A



DELCO
MODELS R-1230 A, R-1231 A, R-1232 A

DELCO MODEL R-1230A

TRADE NAME	Delco, Models R-1230A, R-1231A, R-1232A
MANUFACTURER	Delco Radio, Div. of G. M. Corp., Kokomo, Indiana
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (FIVE)	Types, 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
TUNING RANGE—BROADCAST	540-1720KC RATING .250 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn variable fully closed and set pointer parallel with base of dial at low freq. end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume should be at maximum. Output of signal generator should be no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to grid 12SA7 (Pin8) Low side to B-.	456KC	Tuning capacitor fully open	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
200MMFD	High side to ext. ant. lead. Low side to chassis.	1720KC	"	"	A5	Adjust for maximum output.
200MMFD	"	1400KC	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: DELCO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7GT/G	12SA7GT/G	9R	
2	IF Amp.	12SK7GT/G	12SK7GT/G	8N	
3	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: DELCO PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150	1217026	TA-440	PRSA150-40-40	BRD4415	2N511	DSB-2x40-150	Filter - Red
B	40	150							" - Blue
7	.05	600	7230592	TC-15	684-.05	DT6S5	TP415	S-6-05	Rect. Bypass
8	.2	400	7231594	TC-2	484-.2	DT4P2	TP429	S-4-2	Line Isolation
9	.01	600	1208600	TC-11	684-.01	DT6S1	TP410	S-6-01	Output Plate Bypass
10	.005	600	7230912	TC-25	684-.005	DT6D5	TP408	S-6-005	Audio Coupling
11	.005	600	7230912	TC-25	684-.005	DT6D5	TP408	S-6-005	" "
12	.05	600	7230592	TC-15	684-.05	DT6S5	TP415	S-6-05	AVC Filter
13	.05	600	7230592	TC-15	684-.05	DT6S5	TP415	S-6-05	Ant. Coupling
14	500	500	1207636	1FM-35	1468-0005	5W5T5	MC245	M0.5-35	Audio Plate Bypass

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: DELCO PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
15A	500KΩ	1	1216477	MR49#	D13-133#	M-60-2#	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 15A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

#In models which do not have 47KΩ resistor in IF can install a 47KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Controls viewed from shaft side, terminals down.)

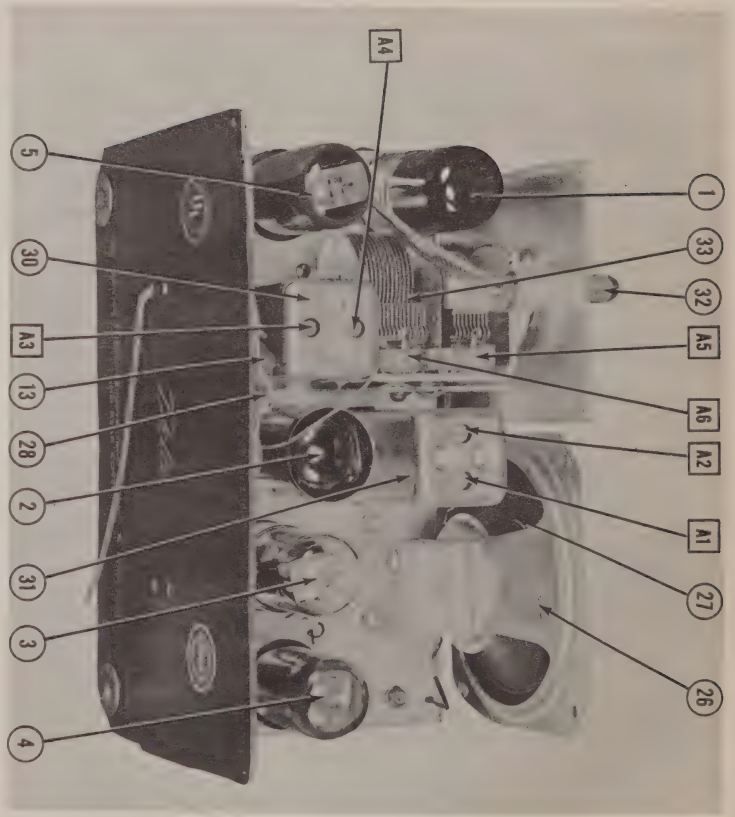
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: DELCO PART No.	IRC PART No.	IDENTIFICATION CODES
16	22KΩ	½	1214550	BTS-22K	Red-Red-Or. Oscillator Grid
17	3.3 Meg.	½	1214564	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
18	6.8 Meg.	½	1215563	BTS-6.8 Meg.	Blue-Gray-Grn. AF Grid
19	220KΩ	½	1214555	BTS-220K	Red-Red-Yl. AF Plate Load
20	470KΩ	½	1214559	BTS-470K	Yl.-Vi.-Yl. Output Grid
21	150Ω	½	1213220	BW-½-150	Br.-Grn.-Br. Output Cathode
22	1000Ω	1	1211037	BTA-1000	Br.-Blk.-Red Filter
23	33Ω	½	1214538	BW-½-33	Or.-Or.-Blk. Rectifier Ballast
24	220KΩ	½	1214555	BTS-220K	Red-Red-Yl. Line Isolating

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: DELCO PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
25	2100Ω	3.4Ω	130Ω	.6Ω	1216571	A-3876*	T22545*		*Bend mounting tabs down, and mount same as original.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: DELCO PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-113†		†Fabricate new mounting bracket.
26A	PM	3.4Ω	1216581	Mod. P4-X		
B			1217146			Alternate Speaker
	CONE DIA.	VC DIA.				
27	4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

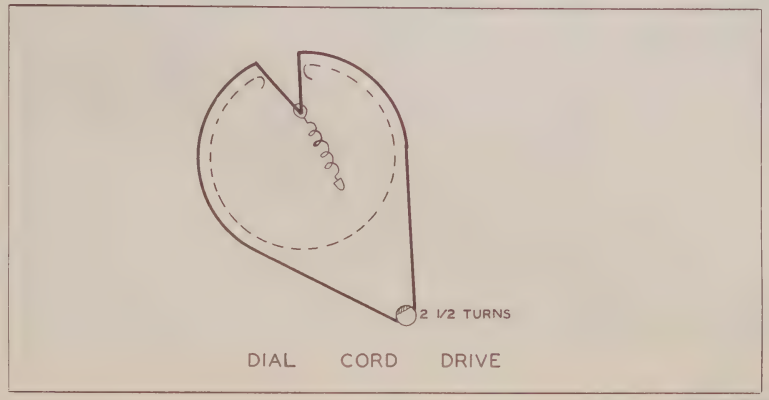
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: DELCO PART No.	MEISSNER PART No.	
28	Loop Ant.	.1Ω	1.5Ω	1217593		
29	Osc. Coil	.9Ω	6.2Ω	1216518	14-1040	Add 50MMFD from grid to high side of tuning cap.
30	Input IF	16.5Ω	16Ω	1216504	16-6658	
31	Output IF	20.5Ω		1217594	16-6870	

DIAL LIGHT

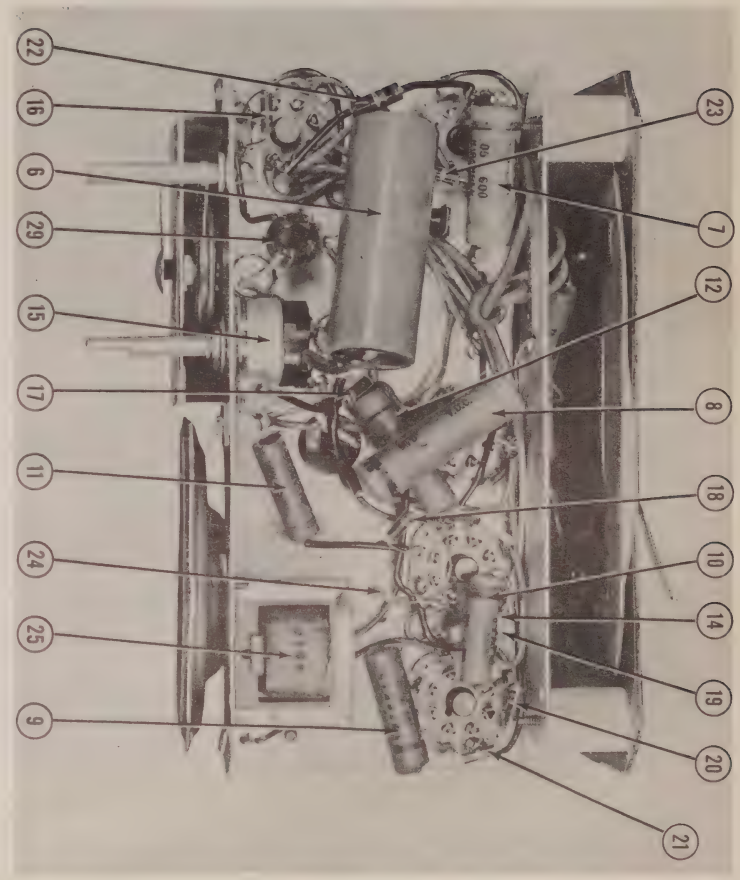
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: DELCO PART No.		INSTALLATION NOTES
32	Bayonet	6-8	0.15	Brown	47		Type 47

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
33	2 Gang Var. Cap.	1217391	(24-465 MMF, 28-192 MMF)
	Dial Plate	1217213	Model R-1230A
	" "	1217421	" R-1231A
	" "	1217210	" R-1232A
	Dial Pointer	1216631	

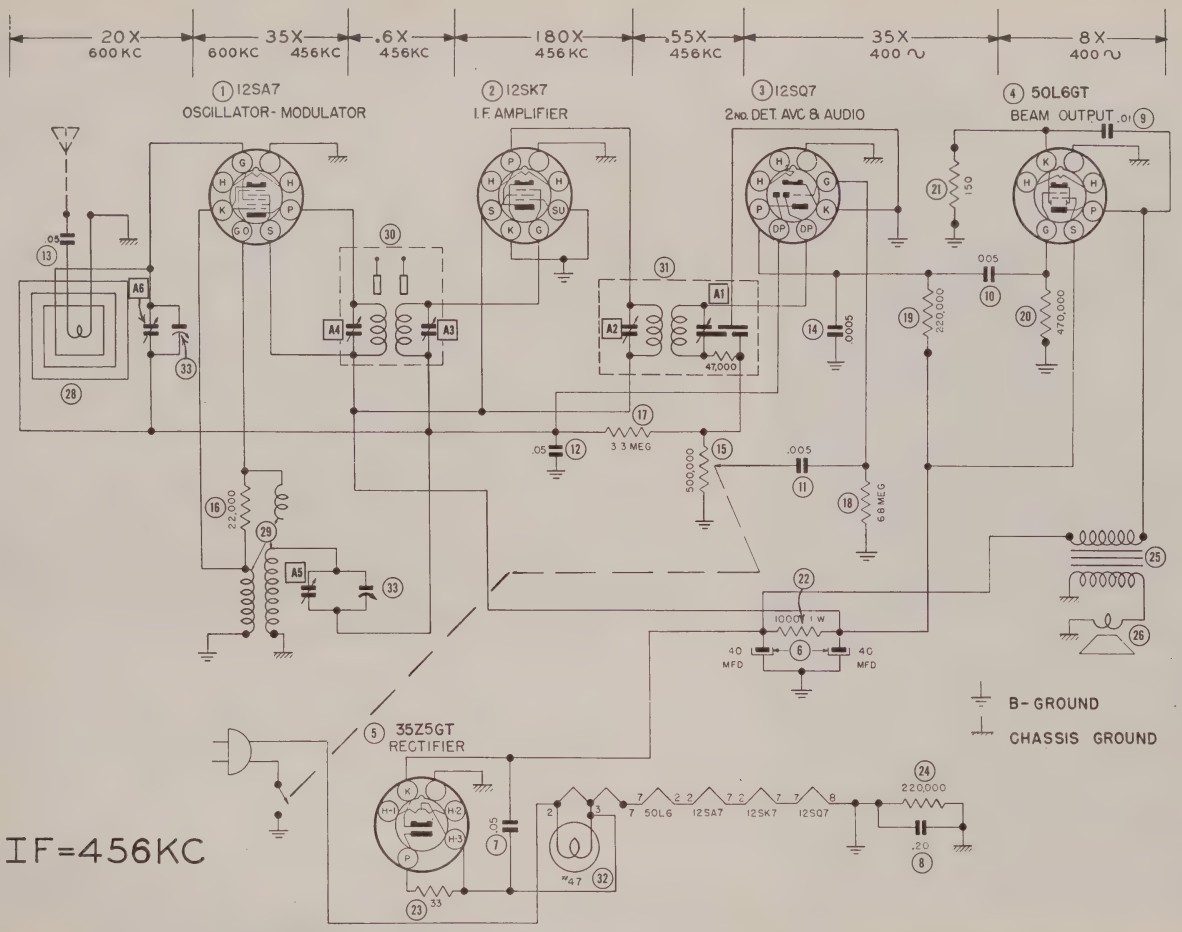


CHASSIS—BOTTOM VIEW



DELCO MODELS R-1230A, R-1231A, R-1232A

DELCO MODELS R-1230A, R-1231A, R-1232A



Pin No.	12SA7 Volt.	12SA7 Res	12SK7 Volt	12SK7 Res
1	0V.	230KΩ	0V.	230KΩ
2	37V.AC	35Ω	13V.AC	12Ω
3	85V.DC	80KΩ	0V.	0Ω
4	85V.DC	80KΩ	-4V.DC	3.2MEG.
5	-2V.DC	20KΩ	0V.	0Ω
6	0V.	.5Ω	85V.DC	80KΩ
7	25V.AC	24Ω	25V.AC	24Ω
8	-4V.DC	3.2MEG.	85V.DC	80KΩ

Pin No.	12SQ7 Volt.	12SQ7 Res	50L6GT Volt	50L6GT Res.
1	0V.	230KΩ	0V.	230KΩ
2	-35V.DC	7 MEG.	37V.AC	35Ω
3	0V.	0Ω	110V.DC	80KΩ
4	-2V.DC	520KΩ	85V.DC	80KΩ
5	-4V.DC	3.2MEG.	0V.	450KΩ
6	58V.DC	300KΩ	0V.	0Ω
7	13V.AC	12Ω	87V.AC	77Ω
8	0V.	0Ω	5.9V.DC	130Ω

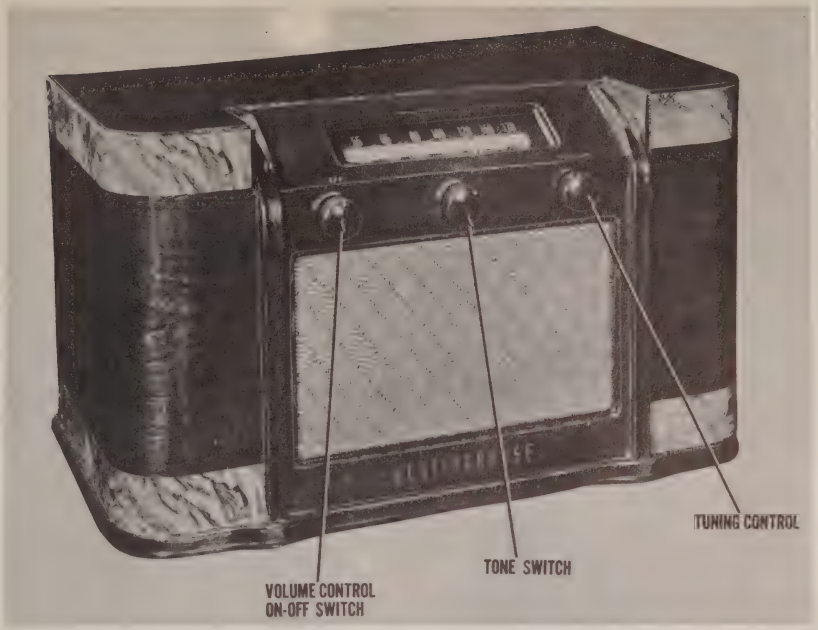
Pin No.	35Z5GT Volt.	35Z5GT Res
1	0V.	230KΩ
2	117V.AC	103Ω
3	113V.AC	100Ω
4	0V.	INF.
5	111V.AC	130Ω
6	0V.	INF.
7	87V.AC	77Ω
8	115V.DC	80KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 474-33

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



WESTINGHOUSE
MODEL H-133

WESTINGHOUSE
MODEL H-133

WESTINGHOUSE MODEL H-133

TRADE NAME	Westinghouse, Model H-133
MANUFACTURER	Westinghouse Elect. Corp., Home Radio Div., Sunbury, Pa.
TYPE SET	Battery Operated Superheterodyne Receiver
TUBES (FIVE)	Types, 1LA6 Converter, 3E6 IF Amp., 1LD5 Det.-AVC-AF, (2) 1LB4 Power Output
POWER SUPPLY RATING	1½Volt "A" Battery & 90 Volt "B" Battery in Pack Form, 9 Volt "C" Bias Battery 310 MA @ 1.55 Volts DC & 19 MA @ 92 Volts DC
TUNING RANGE—BROADCAST	530-1725KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer to last reference mark at low frequency end. Volume control should be at maximum volume and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to front stator of variable. Low side to chassis.	455KC	Variable fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
200MMFD	High side to ext. ant. lead. Low side to chassis.	1500KC	1500KC	"	A5	" " " "
200MMFD	"	1500KC	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: WESTINGHOUSE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	1LA6	1LA6	7AK	
2	IF Amp.	3E6	3E6	7CJ	
3	Audio	1LD5	1LD5	6AX	
4	Power Output	1LB4	1LB4	5AD	
5	Power Output	1LB4	1LB4	5AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: WESTINGHOUSE PART No.	REPLACEMENT DATA: SPRAGUE PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6	10	150	V-3581	UT-121	PRS150-12	BR1215	TC42	M-10-150	Pwr. Supp. Bypass
7	.1	200	RCP10W2104M						" " "
8	.001	600	RCP10W5102K	TC-21	684-001	DT6D1	TP404	S-6-001	Output Plate Bypass
9	.01	400	RCP10W4103A	TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
10	.1	200	RCP10W2104A	TC-1	404-.1	DT4P1	TP426	S-4-1	Audio Screen Bypass
11	.002	600	RCP10W5202A	TC-22	684-002	DT6D2	TP405	S-6-002	Audio Coupling
12	.001	600	RCP10W5102K	TC-21	684-001	DT6D1	TP404	S-6-001	Tone Compensation
13	.01	400	RCP10W4103A	TC-11	484-01	DT4S1	TP421	S-4-01	IF Grid Capacitor
14	.01	400	RCP10W4103A	TC-11	484-01	DT4S1	TP421	S-4-01	Conv. Screen Bypass
15	.05	200	RCP10W2503A	TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
16	100	500	RCM20A101M	1FM-31	1468-0001	5W5T1	MC235	M0.5-31	Audio Plate Bypass
17	47	500	RCM20A470K	1FM-45	1468-00005	5W5Q5	MC225	M0.5-45	IF Bypass Vol. Cont.
18	470	500	RCM20A471K	1FM-35	1468-0005	5W5T5	MC245	M0.5-35	Tone Compensation
19	47	500	RCM20470K	1FM-45	1468-00005	5W5Q5	MC225	M0.5-45	Osc. Grid Capacitor
20	4.7		V-4723						RF Coupling Cer.

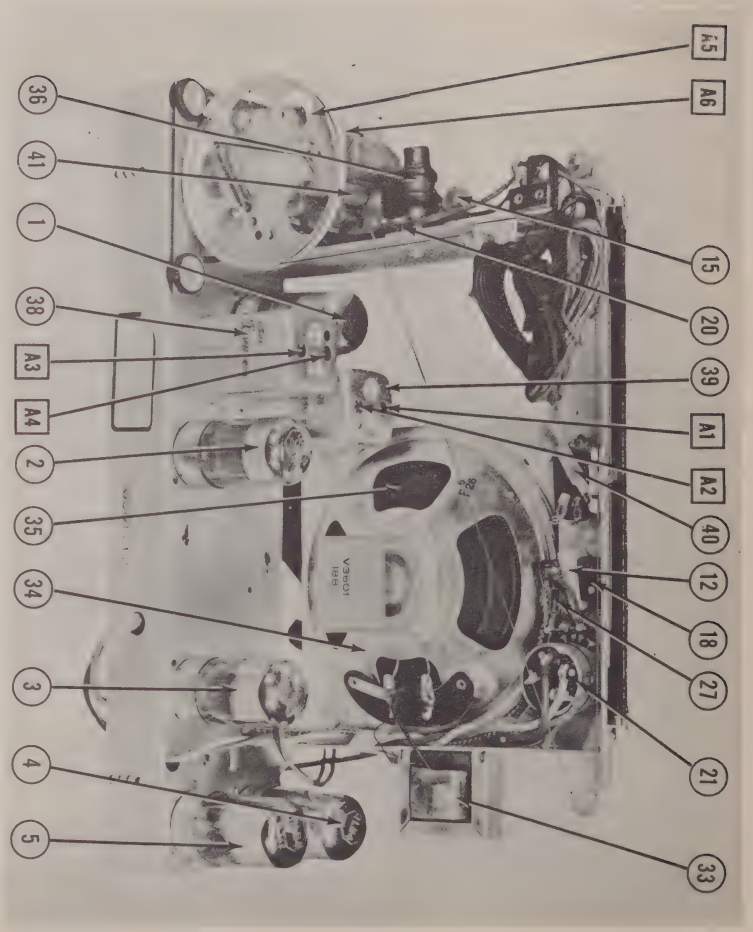
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: WESTINGHOUSE PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: CLAROSTAT PART No.	INSTALLATION NOTES
21A	1 Meg.	1	V-3364	MR53	D13-137	M-63-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 21a per instructions
C	Switch		" "	M27	42	SW-A2	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: WESTINGHOUSE PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
22	220KΩ	½	RC10A5224M	BTS-220K	Red-Red-Yl. Oscillator Grid
23	56KΩ	½	RC10AE563M	BTS-56K	Grn.-Blue-Or. Converter Screen Dropping
24	1 Meg.	½	RC10AE105M	BTS-1 Meg.	Br.-Blk.-Grn. IF Grid
25	2.2 Meg.	½	RC10AE225M	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
26	2.2 Meg.	½	RC10AE225M	BTS-2.2 Meg.	Red-Red-Grn. " "
27	100Ω	½	RC10AE101M	BW-½-100	Br.-Blk.-Br. Series Volume Control
28	10 Meg.	½	RC10AE106M	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
29	330KΩ	½	RC10AE334M	BTS-330K	Or.-Or.-Yl. AF Plate Load
30	2.2 Meg.	½	RC10AE225M	BTS-2.2 Meg.	Red-Red-Grn. AF Screen Dropping
31	2.2 Meg.	½	RC10AE225M	BTS-2.2 Meg.	Red-Red-Grn. Feedback
32	1 Meg.	½	RC10AE105M	BTS-1 Meg.	Br.-Blk.-Grn. Output Grid

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		WESTINGHOUSE PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
33	5000Ω	3.4Ω	310Ω	.5Ω	V-3576	A-8877	T22S46		

SPEAKER

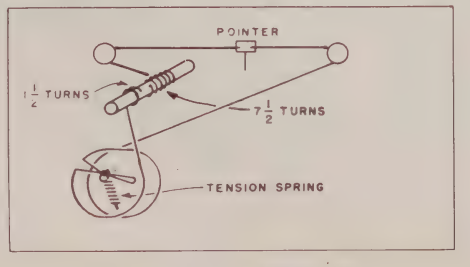
ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			WESTINGHOUSE PART No.	JENSEN PART No.		
34	FIELD	VC IMP.	V-3601	ST-108		
	PM	3.4Ω		Mod. P8-X		
	CONE DIA.	VC DIA.				
35	8-5/16"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	WESTINGHOUSE PART No.	MEISSNER PART No.	
36	Ant. Coil	36Ω	2Ω	V-3567		
37	Osc. Coil	3.5Ω	7.5Ω	V-3562	14-1040	
38	Input IF	18Ω	19Ω	V-3577	16-6656	
39	Output IF	18Ω		V-3578	16-6670	

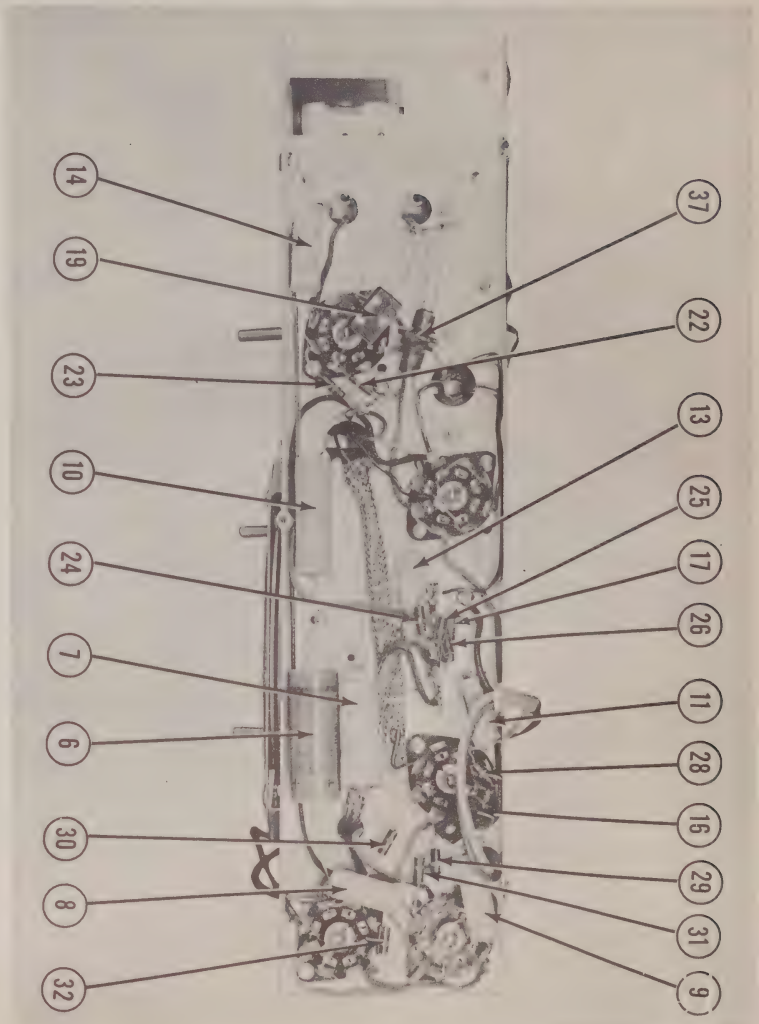
MISCELLANEOUS

ITEM No.	PART NAME	WESTINGHOUSE PART No.	NOTES
40	Tone Switch	V-3582	
41	2 Gang Var. Cap.	V-3563	(28-466MMF, 16-107 MMF)
	"A-B" Battery Pack	V-3594	(1½V. & 90V.)
	"C" Bias Battery	V-3565	(4½V.) Two used in series.
	Dial	V-3567	
	Pointer	V-3568	



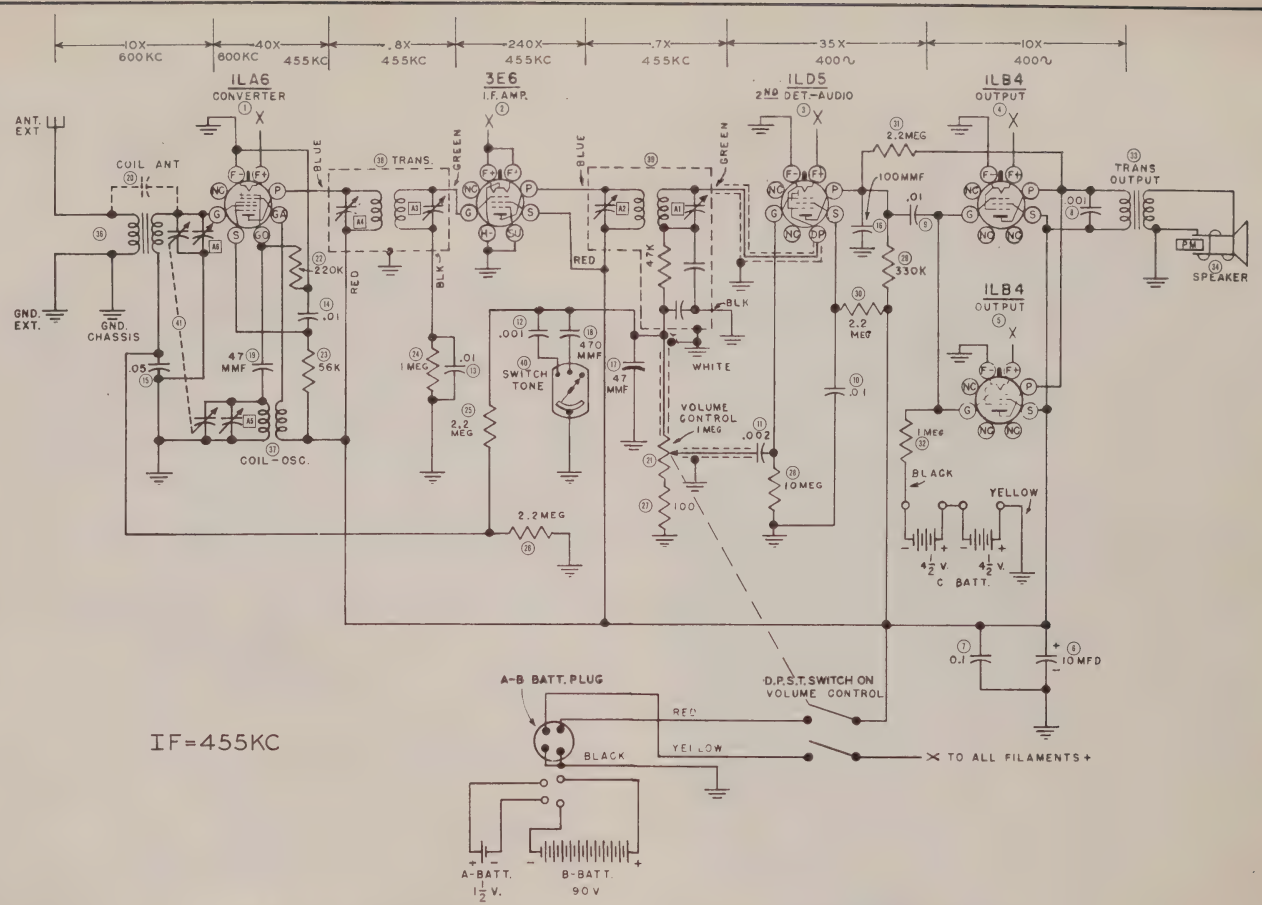
DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



WESTINGHOUSE MODEL H-133

WESTINGHOUSE MODEL H-133



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	1LA6	1.6 V.DC	92 V.DC	92 V.DC	-1.4 V.DC	50 V.DC	0 V.	0 V.	0 V.
2	3E6	1.6 V.DC	92 V.DC	92 V.DC	0 V.	0 V.	0 V.	0 V.	1.6 V.DC
3	1LD5	1.6 V.DC	50 V.DC	25 V.DC	-3 V.DC	0 V.	0 V.	0 V.	0 V.
4	1LB4	1.6 V.DC	90 V.DC	92 V.DC	92 V.DC	-9.4 V.DC	-1.4 V.DC	0 V.	0 V.
5	1LB4	1.6 V.DC	90 V.DC	92 V.DC	0 V.	0 V.	-1.4 V.DC	0 V.	0 V.

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

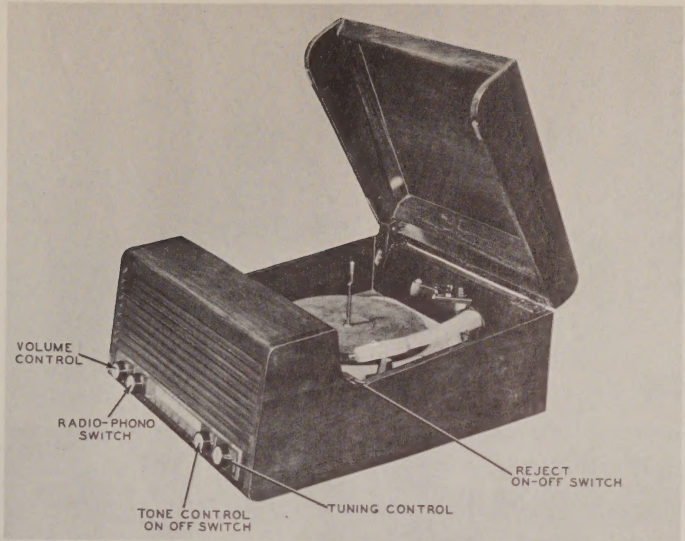
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	1LA6	1.5 Ω	210 KΩ	210 KΩ	215 KΩ	266 KΩ	1.4 MEGΩ	INF.	0 Ω
2	3E6	1.5 Ω	210 KΩ	210 KΩ	0 Ω	0 Ω	1.1 MEGΩ	0 Ω	1.5 Ω
3	1LD5	1.5 Ω	540 KΩ	2.4 MEGΩ	810 KΩ	INF.	10 MEGΩ	INF.	0 Ω
4	1LB4	1.5 Ω	210 KΩ	210 KΩ	210 KΩ	INF.	INF.	INF.	0 Ω
5	1LB4	1.5 Ω	210 KΩ	210 KΩ	0 Ω	INF.	INF.	INF.	0 Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

474-34

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



CORONADO MODEL 43-9196

TRADE NAME	Coronado Model 43-9196 (Chassis Model 7156)
SUPPLIER	Coronado - Minneapolis, Minn. & Los Angeles, Calif.
TYPE SET	AC Operated Combination Auto. Phono. - Superheterodyne Receiver with Self Contained Loop Antenna.
TUBES (FIVE)	Types, 12BE6 Converter, 12BA6 IF Amp., 12AT6 Det.-AVC-AF, 50B5 Power Output, 35W4 Rectifier.
POWER SUPPLY	110-120 Volts AC
TUNING RANGE—BROADCAST	540-1600KC RATING .250 Amps. @ 117V AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume should be at maximum. Output of signal generator should be no higher than necessary to obtain an output reading. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to grid 12BE6 (Pin 7). Low side to B-.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
.1 MFD.	"	1620KC	"	"	A5	"
	Loop	1400KC	Tune for maximum output.	"	A6	Place receiver in cabinet. Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust A6 from back of cabinet for maximum output.

DISASSEMBLY INSTRUCTIONS

1. Remove four push-on type control knobs.
2. Remove eight screws holding loop ant. to rear of cabinet.
3. Remove eight Phillips head screws from bottom cover board.
4. Unsolder phono pick-up leads from terminal strip. (shield to shield and black to brown).
5. Disconnect phono-motor leads.
6. Unsolder leads to loop antenna. Remove loop antenna.
7. Remove ground lead to motor frame.
8. Remove screw holding terminal strip connecting to phono-pickup leads.
9. Remove screw holding antenna trimmer.
10. Remove two bolts holding chassis. Remove chassis.
11. Remove three screws holding chassis shield. Remove shield.

HOWARD W. SAMS & CO., INC. **Indianapolis Indiana**

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PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: CORONADO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12BE6	12BE6	7CH	
2	IF Amp.	12BA6	12BA6	7CC	
3	Det.-AVC-AF	12AT6	12AT6	7BT	
4	Power Output	50B5	50B5	7BZ	
5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CORONADO PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150	B-9564-1	TA-240	PRSA150-40-40	DRD4215	2N514	M-2x40-150	Filter - Red
B	20	150							" - Blue
7	.05	400	BD410503	TC-15	484-05	DT4S5	TP426	S-4-05	Line Filter
8	.05	400	BD410503	TC-15	484-05	DT4S5	TP426	S-4-05	Line Isolation
9	.02	400	BD410203	TC-13	484-02	DT4S2	TP423	S-4-02	Output Plate Bypass
10	.003	600	BD610302	TC-23	684-003	DT6D3	TP406	S-6-003	Tone Compensation
11	.01	400	BD410103	TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
12	.1	400	BD410104	TC-1	484-.1	DT4P1	TP428	S-4-1	Audio Plate Decoup.
13	.01	400	BD410103	TC-11	484-01	DT4S1	TP421	S-4-01	Audio Coupling
14	.1	400	BD410104	TC-1	484-.1	DT4P1	TP428	S-4-1	Shield Isolation
15	.05	200	BD210503	TC-15	484-05	DT4S5	TP426	S-4-05	AVC Filter
16	220	500	HM74A221	1FM-32	1468-0002	SW5T2	MC237	M0.5-32	Audio Plate Bypass
17	100	500	HM74A101	1FM-31	1468-0001	SW5T1	MC235	M0.5-31	Osc. Grid Capacitor

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CORONADO PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18A	500KΩ	1	B-57841-1	MK401	D13-133	AM-60-Z	Tone Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 18A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "
19A	500KΩ	1	854466-2	MK401	D13-133	AM-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 19A per instructions

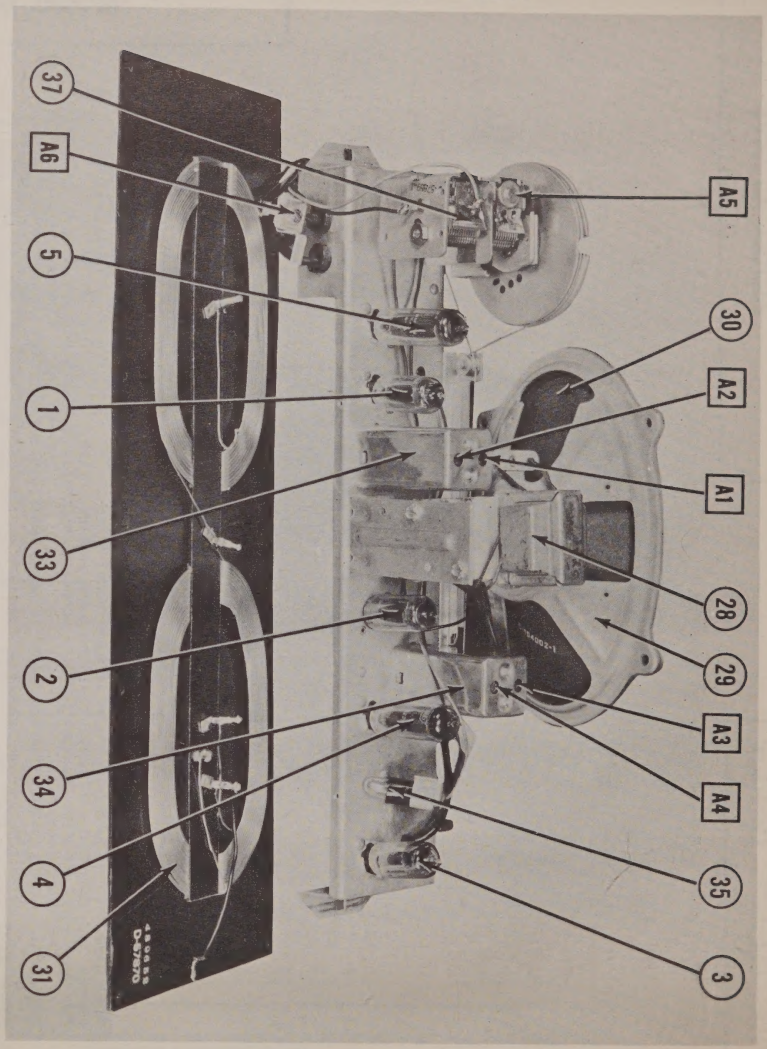
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CORONADO PART No.	IRC PART No.	IDENTIFICATION CODES
20	22KΩ	1/3	BR17B223	BTS-22K	Red-Red-Or. Oscillator Grid
21	68Ω	1/3	BR16B680	BW-½-68	Blue-Gray-Blk. IF Cathode
22	3.3 Meg.	1/3	BR17B335	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
23	6.8 Meg.	1/3	BR17B685	BTS-6.8 Meg.	Blue-Gray-Grn. AF Grid
24	220KΩ	1/3	BR17B224	BTS-220K	Red-Red-Yl. AF Plate Load
25	100KΩ	1/3	BR17B104	BTS-100K	Br.-Blk.-Yl. AF Plate Decoupling
26	150Ω	1/2	BR16C151	BW-½-150	Br.-Grn.-Br. Output Cathode
27	1500Ω	1	BR17E152	BTA-1500	Br.-Grn.-Red Filter

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: CORONADO PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
28	2200Ω	3.6Ω	245Ω	.72	Part of C-57843	A-3676 *	T22845*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: CORONADO PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.				
29	PM	3.6Ω	C-57843			
	CONE DIA.	VC DIA.				
30	4-15/16" x 7-1/8"	3/4"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

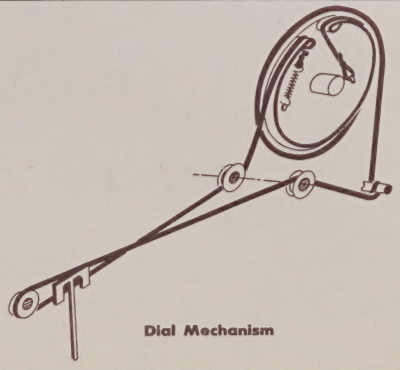
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: CORONADO PART No.	MEISSNER PART No.
31	Loop Ant.	.1Ω	1.7Ω	D-57870	
32	Osc. Coil	1Ω	5.7Ω	B-57842	
33	Input IF	28Ω	18.5Ω	B-56722-1	16-6666
34	Output IF	19Ω		B-56718-1	16-6670

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: CORONADO PART No.		INSTALLATION NOTES
35	Bayonet	6-8	0.15	Brown	A-6158		Type 47

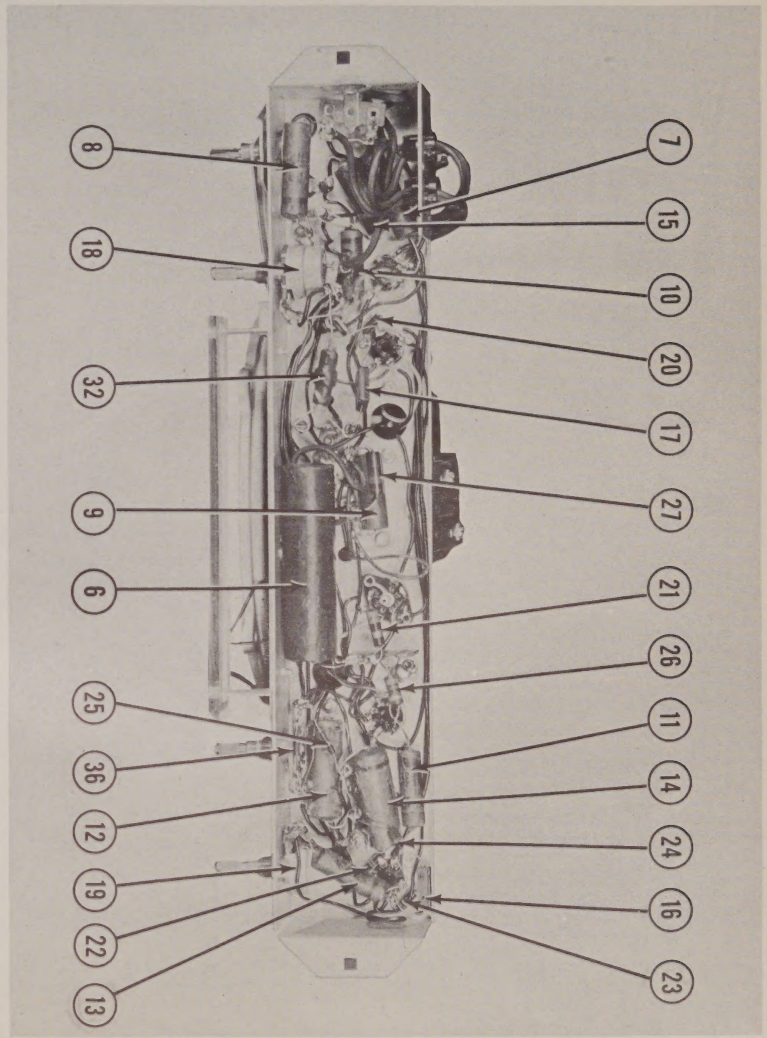
MISCELLANEOUS

ITEM No.	PART NAME	CORONADO PART No.	NOTES
36	Switch	B-51576-2	Radio-Phono
37	2 Gang Var. Cap	C-57859-1	(12-455MF, 30-190 MMF)
A6	Trimmer Cap.	B-57879-1	Ant. Adj.
	Dial Pointer	B-57857-1	
	Knob	C-57872-1	
	Cabinet	E-57873-1	
	Dial	C-57832-1	Crystal & Indicator

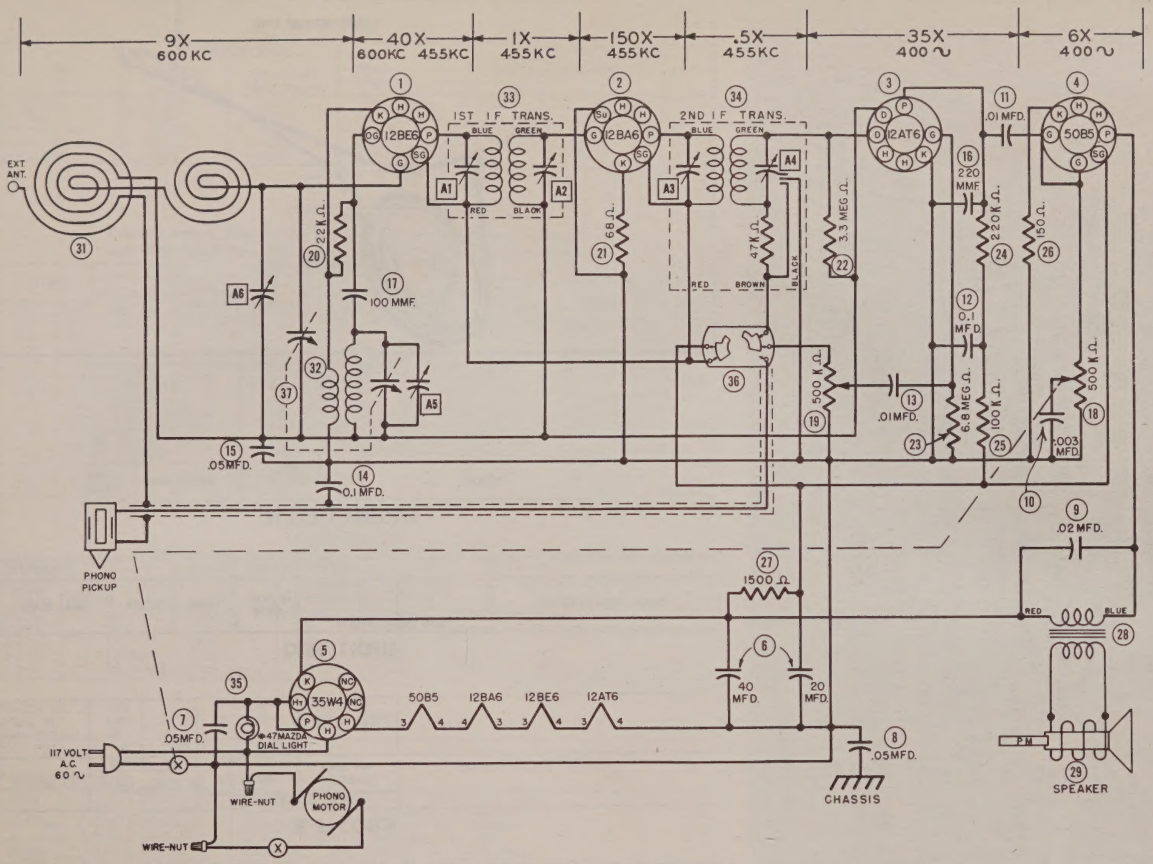


Dial Mechanism

CHASSIS—BOTTOM VIEW



CORONADO MODEL 43-9196



Pin No.	12BE6 Volt	12BE6 Res	12BA6 Volt	12BA6 Res
1	-5.6 V DC	19 K Ω	-35 V DC	3.5 MEG.
2	0 V.	.8 Ω	0 V.	0 Ω
3	24 V AC	21 Ω	24 V AC	21 Ω
4	12 V AC	11 Ω	37 V AC	31 Ω
5	92 V DC	140 K Ω	92 V DC	140 K Ω
6	92 V DC	140 K Ω	92 V DC	140 K Ω
7	-35 V DC	3.5 MEG.	8 V DC	62 Ω

Pin No.	12AT6 Volt	12AT6 Res	50B5 Volt	50B5 Res.
1	-55 V DC	7 MEG.	0 V.	400 K Ω
2	0 V.	0 Ω	5.9 V DC	130 Ω
3	12 V AC	11 Ω	87 V AC	72 Ω
4	0 V.	0 Ω	37 V AC	31 Ω
5	-4 V DC	420 K Ω	117 V DC	140 K Ω
6	-35 V DC	3.5 MEG.	92 V DC	140 K Ω
7	50 V DC	460 K Ω	0 V.	400 K Ω

Pin No.	35W4 Volt	35W4 Res
1	0 V.	INF.
2	0 V.	INF.
3	87 V AC	72 Ω
4	117 V AC	98 Ω
5	113 V AC	95 Ω
6	113 V AC	95 Ω
7	125 V DC	140 K Ω

NOTE: VOLTAGE & RESISTANCE READINGS TAKEN IN RADIO POSITION.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

455 KC IF

ALL TUBE SOCKETS SHOWN FROM PIN END VIEW. ALL SWITCHES SHOWN IN COUNTERCLOCKWISE POSITION, SHAFT END VIEW

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 474-35

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2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.